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ORIGIN AND DEVELOPMENT OF MODERN GYNECOLOGY.

The President's Address, Delivered at the Annual Meeting of the Gynecological Society of Boston, January 14, 1892.

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The ancients seem to have acquired much knowledge relative to the treatment of diseases peculiar to women. The early Greek physicians recognized the nature and importance of prolapsus uteri as well as many of the disturbing factors of menstruation. Mention in their writings is made of a fluor albus. The Greeks devoted much time to the consideration of what so long had been denominated "ulceration of the uterus." They speculated much on what should be the dimensions and position of the normal uterus; they understood, to a considerable extent, many of the more serious forms of dystocia. Their ideas of the various forms of uterine version were not unworthy of their genius. Many forms of malignant disease were observed by them. Some of the causes of sterility appear in their writings. Prominent among these, was the preternatural contraction of the uterine canal. Some forms of periuterine and pelvic abscess were also known to them. These, for the most part, were believed to be limited to the os, and to the cervix uteri. The treatment employed for many of these lesions, morbid processes and peculiar conditions, was complex, and often fanciful, if not whimsical. It is useless, however, to attribute to the ancients advances in gynecology which they had not made. High tribute for many achievements, which people in early ages are supposed to have accomplished is often paid by writers through overstrained appreciation. From a more critical examination of the writings of the ancients, it becomes evident that no very important surgical measures in gynecology were undertaken. Indeed, we might say that nothing of consequence in this direction was achieved when comparison is made with recent successes. The long night of ignorance and superstition, which prevailed in Europe, checked the growth and extension of the arts generally. Growth of sentiment in favor of medicine and surgery, suffered in common with that pertaining to every other art during this period, though many of the rulers at that time were in some respects liberal and accomplished princes. The time at last came when imperial edicts could no longer hold in chains that spirit, which in humanity gives birth to progress. In 1514 Vesalius was born at Brussels. He proved to be the most eminent anatomist of the sixteenth century. His great work on the structure of the human body has aptly been compared to the discovery of a new world. Vesalius did not rest altogether on beds of roses, for in controverting some of the errors in the doctrines of Galen, he incurred reproaches and brought upon himself violent hostilities from several anatomists of his time. All this led to healthful exercise, and stimulated others to more careful dissection and study of the human organism.

The wars in which the different nations of Europe were often engaged, did much toward opening the way for greater knowledge in surgical measures. Baron Larrey, who accompanied Bonaparte to Egypt, and who also served at Waterloo and at other battles, was among the early contributors to surgical advancement. The "Treatise on Gun-shot Wounds," by G. J. Guthrie, at the termination of the wars in Spain, Portugal, France, and the Netherlands, in 1814 and 1815, did much toward opening the way for a more rational practice. Prominent among the results of military engagements were those furnished by the Kaffre wars, and by the battle of Salamanca, and by the engagements at Cawnpore in Hindoostan. The results of the battle of Solferino were still more important. At this battle, according to some accounts, in one day 11,500 French, 21,000 Austrians, and 5,300 Sardinians were wounded and taken from the field. Those of us who participated in the Civil War of our own country, know that the results far surpass all others for help in surgical knowledge. The Franco-Prussian and other wars of still more recent date, have yielded much for consideration on the part of the surgeon. The discovery of the use of anæsthetics in 1846, in Boston, has universally become a priceless boon for suffering humanity. The encouragement which the arts have received has led to countless improvements in the construction of surgical instruments, apparatus and in the preparation of dressings. Notwithstanding all these helps, with the light afforded by the extended opportunities for surgical advancement, development and progress in gynecological procedures were for a long time slow and uncertain. The successful results as first obtained in the ovariotomy cases undertaken by McDowell, of Kentucky, and by others at a somewhat later date, even though some apparent recoveries followed, were not sufficiently great to impress the more conservative surgeons that such operations at that stage of our knowledge were justifiable measures. The occasional or the few recoveries occurring after such operations were looked upon perhaps, more in the light of what the human organism, under certain circumstances, could endure, than as indications of what should have been undertaken for an attempt at radical cure or for relief. Now that laparotomy, when undertaken with all modern equipments and under the strictest precautions, has become a recognized measure of treatment for various lesions and diseases affords no justification for those, who, at first, persistently continued in the work without the necessary preparation for the trying emergencies which so often arose, even though

some apparent recoveries followed. It is not those who first enter the ranks, but those who go into battle all prepared for the best service, we should most delight to honor. The most important advance in the progress of gynecology has been the more general recognition of the influence of bacteria in the production of certain morbid processes. The recognition of the agency of microörganisms in causing septicæmia, and diseases of kindred nature, has effected an entire change in the various methods of treatment, and has been productive of results in surgical operations more brilliant than have been found before recorded in the history of our art. The importance of this fact was slow in gaining acknowledgement; most surgeons were inclined to regard the presence of bacteria connected with the pathological changes rather as the result, than as the original cause of morbid processes. The old systems of operative surgery were too strongly entrenched to be dislodged by the bare thought of the presence of an unseen foe. There had been developed along with the surgical art, a tendency toward mannerisms. The brilliant display in the large amphitheatre of a hospital had its fascinations which were felt no less by the masters of surgery than by the crowding spectators. These feats of surgical process could not be relinquished at the first onset made by what was termed "the new fledged theorists." The new system, however, had come to stay, though minor details in method are subject to change. The patient workers in quiet retreat, and in an atmosphere uncontaminated, and made aseptic, were able to show results that could not be gainsaid. It matters but little whether the carbolized spray with complicated dressings, or the irrigator with preparations of bichloride is employed so long as special precautions are carried out to prevent contamination of the incised tissues. Different antiseptic agents and the manner of the application of each may present results which are not altogether alike, but the general effect will always favor the adoption of some precautionary methods against the occurrence of sepsis. It is an undoubted fact that with surgeons in lesser matters of detail, there has never been an entire unity of proceeding. This apparent difference in what may be termed the exemplification of the technique, is owing, no doubt, to the various degrees in appreciation on the part of the individual surgeon of the importance attaching to each of the several steps to be taken in any special method proposed. Some operators work largely under the influence of mechanical intuition, while others, acting from a general comprehension of what should be done, will not limit their sphere of action by observing formulated methods; they are inclined more to rely upon their original resources to meet casual emergencies. It is claimed by some operators that in their practice, results in laparotomy without the employment of antiseptics have been as favorable as in those cases in which their use has been adopted. In answer to this it may be said that much, no doubt, depends on the manner of operating. Those who enjoin the strictest measures for general cleanliness, and are exceedingly expert in operating, and who maintain the strength of the patient against the influence of shock, may succeed because the exposure of the patient is reduced to a minimum. It cannot be denied that the tissues in the living organism are, to a great degree, antagonistic to the action of bacteria. It is only after the vital fluids have become overwhelmed by the presence of such germs, or when they have become peculiarly sensitive to their action that the chief danger is to be apprehended. But this is no argument against the use of antiseptics, or why the potency of the virus of the invading bacteria should not be attenuated. It is always wiser to take every precaution when convenient, than to assume that the subtle fluids of nature are in her direst extremity alone sufficient for preserving her integrity. This leads to the consideration of another point which is of much practical importance.

While it is desirable, in all important gynecological operations, to keep the wound aseptic, it is also absolutely necessary to be on the watch, lest the strength of the agent employed be so great as to weaken the resisting power of the tissues against the action of the microörganisms. Sir Joseph Lister, in his contribution on the present position of antiseptic surgery, before the Tenth International Medical Congress, at Berlin, makes mention of what he had stated at the London Congress, that normal blood and serum, and even pus, were by no means favorable soils for the growth of microbes in the form in which they are present in the air. As regards the spray, Sir Joseph remarked that he felt ashamed that he should ever have recommended it for the purpose of destroying the microbes in the air. He further says, that if we watch the formation of the spray, and observe how its narrow initial cone expands as it advances, with fresh portions of air continually drawn into its vortex, we shall see that many of the microbes in it, having only just come under its influence, cannot possibly have been deprived of their vitality. Yet there was a time, he says, when he assumed that such was the case; and, trusting to the spray implicitly, as an atmosphere free from living organisms, omitted various precautions which he had before supposed to be essential. Such a confession of being misled seems hardly necessary to have been made; for, on reflection, it must be admitted that the employment of the spray could never have been otherwise than beneficial. For the foreign substances in the air, which bear the disease germs, coming in contact with the elements of the spray, are in large degree prevented from gaining admission into the wound. The constant wetting down of the foreign material containing the germs, I had, for some time before the use of the spray was discontinued, come to believe was the true secret of success. By this means the germs, if not destroyed altogether, were in large measure rendered *hors de combat*. Another interesting feature brought out in Sir Joseph's paper, is the reference to the results of Metchnikoff's experiments in regard to intercellular digestion in the amœboid cells. By these experiments it has been found that these migratory cells, with whose amœboid movements we have long been familiar, feed also like amœbæ, and, while almost omnivorous in their appetite, have a special fondness for bacteria, taking the bacteria into their protoplasmic substance and digesting them, thus preventing their indefinite propagation among the tissues. The cells which exercise this devouring function, Metchnikoff, according to Lister, termed phagocytes. In the experiments referred to, spores of anthrax were introduced under the skin of the green frog; these were destroyed by the phagocytic action of the leucocytes. When, however, the leucocytes were excluded from penetrating the animal's lymph, the spores sprouted and grew into luxuriant

threads of anthrax in the lymph. The results of other experiments are mentioned, favorable to the adoption of the phagocytic theory. Respecting the use of sutures, the author says we can understand that the leucocytes may creep into the intervals between the fibres of a silk thread, and destroy any microbes that may have lodged there before they have had time to develop serious septic mischief. But there must surely be a limit to the thickness of the threads. No one, he imagined, would feel justified in leaving in the peritoneal cavity an unsterilized cord as thick as a finger. The author says it would be wise to sterilize even so slender a cord as $\frac{1}{10}$ of an inch, which Mr. Bantock, of London, uses for tying the pedicle of the tumor. Who can say, continues the author, that septic mischief may not occasionally lurk in the ligature in a form which may baffle the phagocytes? The extended investigations made regarding microörganisms have been productive of important achievements.

I have been asked why it did not occur at the time to some of us who had extended experience in the late war, 1861–65, that the remarkable and speedy recoveries after operations for severe injuries of the abdominal organs, and of other parts of the body, were due to the direct influence of the agents employed, as now embraced under the term antiseptics. In answer to this I am able to state, from personal experience and observation while in the service, with the rank of assistant surgeon and surgeon-in-chief of the First Division of Cavalry in the Army of the Potomac, and of the Army of the Shenandoah, that many of the medical officers did recognize the connection between such speedy recoveries and the agents employed. Hydrargyri chlor. mitis, and also solutions of hydrarg. bichlor. corrosivi, were known to be efficient in destroying maggots appearing in wounds. These agents were employed in modifying and in preventing altogether the occurrence of suppuration. So also was the liquor sodæ chlorinatæ, and the liquor zinci chloridi. All these, as well as other agents issued among the medical supplies, were often employed for preserving bodies for dissection, for embalming, for lessening suppuration and for overcoming it altogether. The solution of zinc was also used for washing and cleansing sponges and surgical instruments. I should further state that the medical officers of the army always recognized the fact that unhealthful surroundings were favorable to the production of a pus-generating atmosphere. Hence the frequent employment of the various disinfectants for correcting and preventing such conditions. When one, therefore, comes to consider the subject more carefully, it will appear that our knowledge of the agency of microörganisms in the production of suppurative processes comprised about all that Mr. Lister demonstrated when he began the work of his remarkable career. When Mr. Lister, however, came to recognize the influence such extraneous factors had over the condition of the parts after surgical operations, he seemed determined to crystallize that knowledge, and to formulate rules for attempting its broader application.

It appears that Prof. Lister founded his theory on what was termed the researches of M. Pasteur. This theory embraced the idea that the septic properties of the atmosphere were owing not to the oxygen, or to other gaseous elements, but to minute organisms everywhere suspended in the air; that the power of the microörganisms was due to their vitality, that the decomposition occurring in the injured parts might be prevented by applying as a dressing some material capable of overcoming the energy of the floating particles. The agent which Prof. Lister used was carbolic acid. The publication of his papers on this subject first appeared in 1867. In 1863, a work on this subject was published by Dr. Lemaire, of Paris. This author had entered very thoroughly and scientifically into the consideration of the septic action of infusorial germs suspended in the air; he had discussed the theories of Schultze, Schwann, Pouchet, Helmholtz, Bernard, and of other investigators. Dr. Lemaire had used carbolic acid in many conditions requiring surgical and other measures for relief. Déclat, Küchenmeister and others, had paid much attention to the subject, before the publication of Mr. Lister's views. (See London *Lancet*, 1867; also Braithwaite's Retrospect, Vol. lvi.)

Another subject which has been coming more and more important is the treatment of uterine myomata. The exhausting hæmorrhage which so often attends the presence of large fibroids renders a resort to surgical interference necessary. Removal of the uterine appendages, and especially the Fallopian tubes, if it does not fully control hæmorrhage, lessens the tendency to it. The operation for the removal of the tubes not only gives relief, but effectually overcomes all suffering and effects a permanent cure. We cannot always tell whether this occurs as the result of cutting off the blood supply through the removal of the appendages, or as an interruption of the menstrual phenomena, or through excision and loss of the nerve tissue. Pyosalpinx and salpingo-ovaritis are affections for resort to laparotomy. In all such cases the diseased tubes and ovaries should be removed. Sometimes the pus does not escape through the distal extremity of the tube, but dilates its canal; it may open into the uterine tissue and give rise to pelvic complications. This will often be evidenced by abscesses recurring at irregular intervals and discharging through Douglas's cul-de-sac and through the vaginal fornix.

The presence of such a condition is always to be deplored; it can safely and permanently be cured only by a resort to laparotomy. Another condition connected with the Fallopian tubes worthy of the highest consideration is that occurring in cases in which the septic material escapes through the abdominal extremity of a patulous canal. The occurrence of this condition almost invariably gives rise to more or less general peritonitis; this will endanger the life of the patient unless speedily relieved by operative interference. All are glad to realize that the progress in gynecology has advanced beyond the mere routine practice of attempting to correct uterine version or laceration of the cervix and perineum; that happier days can be anticipated by those women who, having contracted matrimony and having become pregnant, find that they are subjects of deformity of the pelvis. The brilliant achievements in abdominal surgery give assurance that Cæsarian section is not only a legitimate operation, but one almost entirely free from danger; also, that the tragic scenes heretofore witnessed in certain cases in which embryotomy was resorted to may be relegated to history. The progress made in gynecology has reduced to a minimum the horrors attendant on extra-uterine fœtation.

The recent achievements in gynecology have made

full returns for what it received from other branches of the surgical art. By the advances made in abdominal section the surgeon of to-day is enabled to operate and even to cure a large class of cases comprising every variety of hernia. Diseases of the appendix vermiformis are no longer the approbium of medicine. Cases of intestinal obstruction can often be treated successfully by surgical interference. The military surgeon is now profiting by the experience gained in our department. Penetrating wounds of the abdomen implicating the colon, small intestine, stomach, bladder, or other viscus or organ, can now be successfully treated by abdominal section. In regard to the treatment of cancerous disease of the uterus it seems scarcely necessary for me to say that some improvement has been made. The method of total extirpation of that organ, carried out as I witnessed it performed by Prof. A. Martin, of Berlin, is undoubtedly the best that has heretofore been devised. Published statistics on this subject I am persuaded would fully justify the general adoption of this method of proceeding. It must be conceded, however, that our knowledge of cancer in its various manifestations is as yet in its elementary stage.

Another subject which has taken on much interest in gynecological circles is the treatment by electricity. Much has been accomplished by the judicious use of Faradism. Excellent results have been reported when this form of electricity has been used singly, and also in connection with galvanism. That form of electricity which has been of the most absorbing interest is that of electrolysis. The splendid results reported by Apostoli, of Paris, and by his followers, as obtained by this method of treatment in chronic metritis, intra-uterine polypi, hæmatocele, certain uterine fibroids, and other affections connected with the genetalia and pelvic organs should not be overlooked.

Without entering into any extended consideration as to the value of such method when placed in comparison with more radical measures, I cannot refrain from remarking that the credit of originating this method of treatment by electrolysis rightfully belongs to a member of this society. Our associate, Dr. Ephraim Cutter, was evidently the first in the field. By his ingenuity, skill, and rare courage he succeeded in perfecting a method and in carrying it out successfully in the treatment of uterine fibroids. His success in this direction should be a lasting honor to his name.

In conclusion, I would say that the Gynecological Society of Boston should feel that it has good reason for congratulation, for it is now twenty-three years since it was founded and took up the work with noble purpose. At the time of its organization gynecology was in all the schools an unrecognized department of medical science. Its presence here in Boston, the metropolis of New England, was regarded as an innovation. It would, indeed, have been surprising had not some opposition been directed toward its work and its methods. Its membership originally was limited to a few, and no one was able to gain entrance who did not give promise of becoming an active worker and a fit representative of the art. Its Secretary,[1] fresh from extended opportunities abroad, and from the discipleship of the renowned Simpson, of Edinburgh, became a power for directing and accomplishing work. He was an exponent in the principles and methods of practice that was scarcely equalled by any gynecologist found in this or other lands. That the society was able to carry on its work and to cause its influence far and wide to be felt, the several volumes of its transactions in its first series are its abiding witnesses. The subjects brought forward for consideration have been numerous and important. Eminent gynecologists in this and in other countries have made frequent reference to these interesting pages. Our society has kept abreast with the times and with the progress everywhere made in medical science. Our doors are now open to every one who has made a record and has given evidence of a desire to advance along the lines we have established for our work. Prominent medical gentlemen in this and other places, after seeing the importance of the work this society has had before it, have profited by our undertaking. They have established new societies, whose objects have been to promote interest in work like that in which we have been engaged. Foremost among such societies organized is the American Gynecological Society; also one of recent date is the American Association of Obstetricians and Gynecologists; others also have been founded. Not the least among such distinguished bodies is the Gynecological Society of Chicago, and also that of Detroit. The Section of Obstetrics and Diseases of Women connected with the American Medical Association is now fortunate in having so far succeeded in accomplishing much good work. An awakened interest for this kind of work is felt in Great Britain, Germany, and in other countries. If, however, some of these younger societies are rivalling us in advances into the darkness beyond, it will not work to our detriment; it will only show that the work of our society was wisely undertaken, and that the founders built far better than they knew.

[1] Dr. Horatio Robinson Storer.

NOTES ON YELLOW FEVER.

BY GEORGE F. CENTER, M.D., A.M.,
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Yellow fever is thought to be a microbic disease, and to depend upon the chemical products of these microörganisms for its deleterious action upon man. It is a fact that these microbes and their products cannot be destroyed while in man by any known drug, nor can their ptomaines be neutralized while in the organism by any chemical not primarily destructive to man. In the absence of any known specific for yellow fever, to my own knowledge and experience it is evident that the best curative results are obtained by a depurative eliminative treatment, acting through the skin, bowels, and kidneys.

Our epidemic at Jacksonville in 1888 was an exact repetition of the New Orleans epidemic of 1867. In both there were sporadic cases in the early spring; the types were generally mild; the fever was most sweeping, including the negroes, who are generally exempt. One attack here in 1877, and in New Orleans in 1853, did not exempt even natives from attack, while relapses were common in both epidemics. The exact cause of yellow fever is still a subject of investigation; however, Dr. Paul Gibier, the French savant and accredited representative of the French Government, while here in 1888 discovered a microbe in the intestines which may be the true cause. Apro-

pos, Dr. G. kindly presented me with an "old culture" microscopic slide, which I often place upon my microscopic stand and wonder how so diminutive an object can produce such devastation among the king of mammals. There were about fifty physicians here treating yellow fever during this epidemic of 1888, and they reported about 4,705 cases to our Board of Health. There were about 412 deaths, hence death rate nearly 10 per cent. I have, in a book kept for that purpose, a daily record, giving name and residence of 594 genuine cases of yellow fever treated by me and reported to our Board of Health prior to and including the sixty-eight days in which I was connected with the "Bureau of Medical Aid," and of this vast number, which was about one-eighth of all the cases of yellow fever in Duval county, I reported for record a death rate of less than 2 per cent. I make this statement to show the great advantage of eliminative treatment over the neutralization treatment which was here in general use by physicians during our late epidemic.

The peculiarities of yellow fever, as contradistinguished from all other fever, is shown in the eye, pulse, temperature, and generally it has a nocturnal invasion. There is a peculiar appearance of the ocular conjunctiva, so characteristic that when once carefully noted will lead to a correct diagnosis of yellow fever without the necessity of examining for other symptoms. The upper ocular conjunctiva remains normal; the lower half is a reddish-yellow hyperæmia, slightly œdematous. This division of the eye at the palpebral fissure is so very marked that, when in doubt, raising the eyelids and a careful examination of the eyeball is all that one needs do to differentiate yellow from other fevers. The pulse is very slow, and the temperature rarely reaches 104° F. Take for example my case No. 526. He took a chill at 11 p. m., November 6, 1888. The upper half of the eyeball normal; lower, reddish-yellow and hyperæmic; face puffed; urine dark-brown, thick, scanty, and highly albuminous; pain in head, back, and knees; pulse 60; temperature 103½° F. The following notes were taken daily about 9 a. m.:

1888. November	7.	Pulse,	60.	Temperature,	102 1-5 deg. F.
"	8.	"	52.	"	101 4-5 "
"	9.	"	48.	"	97 1-5 "
"	10.	"	46.	"	96 2-5 "
"	11.	"	43.	"	96 "
"	12.	"	44.	"	97 1-5 "
"	13.	"	49.	"	98 "
"	14.	"	44.	"	97 3-5 "
"	15.	"	44.	"	97 3-5 "
"	16.	"	60.	"	98 "

I know of no other fever with so slow a pulse, nor such a temperature.

This was a typical case, except he was sick much longer than the average. There is a tendency among yellow fever experts to place very great and undue prognostic value upon the amount of albumin found in the urine after the third day. Cases generally show from 3 to 75 per cent. of albumin. When I showed the thick dark-brown syrupy urine of this patient to an expert of seven epidemics; after he had boiled and used the nitric acid test for albumin, which showed about 75 per cent., he said: "Well, get him a coffin; you cannot cure such cases." Nevertheless, this man made a good recovery, and is a well man to-day.

Possibly there are some points in my own case which may be of interest to the reader. On September 3, 1888, at 9:30 p. m., I was suddenly taken with a most violent pain in my head, back, and legs. My face in a few minutes became puffed up and assumed a red-ash color; then came a chill which seemed to freeze my very bones. A dazed, dull feeling took possession of my senses, and there seemed to be a frozen iron vise pressing upon my trochanters. My pulse-beat was 60 per minute, and the thermometer registered 104° F. I went at once to bed, and had my stationary bath-tub filled with hot mustard water of 115° F. I took a blanket from my bed and wrapped it around me, and had myself led to the bath-tub, for I could not walk alone. I got in and drew the blanket over the top of the bath-tub, so as to keep in the heat, and there I took a hot bath for about twenty minutes. My headache and other pains left me before I got out of the bath-tub, and they never returned. One very striking peculiarity of this disease, I am sorry I had to notice, was a constantly sick stomach, with fearful vomiting upon the least movement of hand or foot; and the only way I could get ease was to lie flat upon my back with my legs straight down in the bed and my arms pinioned flat to my sides, with mouth and eyes closed. This position I used subsequently quite often on others, with benefit, in quieting their sick stomachs. For two days after the fever left me, I was so inordinately weak that I could not walk, nor could I sleep unless constantly fanned. The moment they quit fanning me I would wake up. This defect seemed to come from muscular asthenia located in the respiratory muscles, and it is evident that my blood was so vitiated that there was more than the ordinary demand for oxygen. The patient during yellow fever, and in convalescence, must lie still and not attempt to get up even into a sitting position in bed, because the heart is very prone to a delirious action, and its even-balanced rhythm is easily altered by any exertion; and there is a very great want of power to maintain a stable equilibrium of the cardiac muscles, which too often ends in complete heart failure.

There is an old philosophic axiom, that action and reaction are equal and in opposite directions; *ergo*, a moderately cool bath (70°F.) increases the internal heat of the body; and a warm bath of say 115° F. will decrease the internal heat of the body, hence the beneficial use of the warm bath to reduce fever. This warm bath will make the pulse of yellow fever fuller, softer and *more frequent*, abate the pain in head and the back; and the lethargy will pass off; in fact after the hot bath yellow fever loses all its terrible power to destroy life, and that it is the best remedy known to break the force of this dreaded malady is my experience after having individually caused it to be used in more than one-eighth of all the cases of this entire epidemic; and my losses of only one and eight-tenths per cent. surely carries some weight as to its efficacy.

The following "marvellous efficacy" of a hot bath in yellow fever, by Surgeon J. D. Miller, M.D., U.S. N., is worthy of repeated reproduction. He says: "Becoming thoroughly disheartened by the result of the treatment with calomel, I determined to try a remedy which, though not new, is far too much lost sight of—the hot bath. I had a bath tub brought to the side of the patient's cot, supplied it with water of 114° F., immersed the patient in it to his chin, and with my fingers on the wrist, carefully noted the following results: the pulse immediately became fuller,

softer and less frequent; (my experience is, the pulse becomes more frequent, as it should, because it is too slow,) the pain in the head and back abated; the lethargy passed off, and the ischuria was relieved, etc. I found that the change in the patient was permanent; not a single symptom regained its ascendency. I wish it to be understood that the case which I have described gives the history of every case thus treated. The last death occurred on the 4th of September 1863, and at that time there were several cases apparently slipping away under the same symptoms. They were all put into the hot bath, and all recovered. At the time, I hesitated to attribute such marvellous efficacy to so simple a remedy. I waited further evidence. On the 26th day of April, 1867, a man died of yellow fever on board the Frigate Susquehanna, then crossing the West Indies. Several cases followed this death, and again I resorted to the hot bath, with the same happy results." Can higher authority, or better evidence be produced to show that after the hot bath yellow fever loses all its terrible power for destroying life?

When our Board of Health declared yellow fever epidemic, Jacksonville contained nearly 35,000 people; two days afterwards there was a grand hegira, leaving us about two thousand whites, and eight thousand negroes. This hegira is one cause of our small mortality list, another is: our virus was attenuated in South Florida before coming to Jacksonville. Most other epidemics of the United States received their microbes direct from Cuba—while ours of 1888 came first to Key West, thence to South Florida—and last to Jacksonville. We had our microbes—as Pasteur would say—in the third culture, which modified its virulence at least one third, and gave us a Florida, but not a Simon pure Havana yellow fever. There is no exact data from which the true number of cases of yellow fever here can be arrived at; the extremes were 3,941 and 5,705, with a loss of from 412 to 430. This loss was caused by a want of home comforts, from being hauled in wagons and carts to the hospitals, and too often by drunken incompetent nurses; to say nothing of microbes and disqualified physicians. Possibly our St. Luke's hospital would never have been called the "death trap" had it not been for the necessity of hauling many patients there who had no other place wherein they could receive attention. There is no disease whose victims bear moving from one place to another as illy as do those of yellow fever. Yellow fever patients should be treated at once, and upon the spot where taken sick, if we lower the mortality from this peculiarly miserable disease. When our Board of Health was trying to send all sick persons who had not comfortable homes to the Sand Hill Cottages, or to St. Luke's hospital; more than a thousand people, both white and black, retreated into their homes as soon as they were taken sick. They locked their doors and would not call a physician for fear they would be reported to the Board of Health, and by them be compelled to go to the hospitals; and here it is a well known fact that the plain Florida cracker, and the numerically greater colored people, both dread Sheol much less than they do an hospital. This uncounted thousand people, when taken with yellow fever, went to bed, covered up head and body as warm as they could, they took hot mustard foot baths, and if necessary to keep warm and keep up a good sweat, they put bottles of hot water about their bodies. For medicines they used hot orange leaf tea constantly; they kept their bowels loose with castor oil. I have never yet heard of a death from yellow fever among the thousand or more so treated, and the same remarkably good report I have from several physicians. Is this not a striking instance of the lameness of our scientific medication? Should we not call a halt and reëxamine our premises? Recognizing the fact, that we had several sporadic cases of yellow fever in our midst in the early spring of 1888, thus making an epidemic almost certain during the summer and fall months, I commenced to cast about for a treatment for yellow fever which would save my own scalp, and several others from the coming attack of Bronze John. New Orleans, Memphis, Charleston, Savannah, and many other cities, had a record of their various epidemics recorded in my medical library; but the mortality was so great under their treatment, as there portrayed, that the great hegira of our twenty-five thousand people from Jacksonville seemed quite justifiable. Luckily, in the *American Journal of Medical Sciences* for 1866 and 1867, I found J. D. Miller, M.D., Surgeon U. S. N., Mobile, Ala., and B. F. Gibbs, M.D., U. S. N., Pensacola, Fla., furnished a treatment which they had used in 1863, that, if taken in the early stages of the disease suffered a loss of only two per cent. This treatment, with some modifications, I adopted and succeeded in bringing the mortality in the five hundred and ninety-four cases which I have treated to one and eight-tenths per cent.; although the average loss by physicians here, using the neutralization or anti-bacterial treatment, was nearly ten per cent. My treatment was to send the patient at once to a good warm bed, keeping even the hands under cover. Then, as soon as possible, a hot mustard bath was prepared, and the patient was thoroughly heated up in the mustard bath, keeping blankets as a cover to the bath. These blankets were then wrapped around the patient, who was immediately returned to bed. When a full bath could not be had, mustard foot baths, with bottles of hot water wrapped in wet towels were placed around the body. These diaphoretic baths had a depletant effect upon the heart and vascular system, accelerating the circulation, and stimulating secretion and excretion. Hot sour orange leaf tea was then prepared, and drank freely every half hour during the fever, to produce warmth and a copious perspiration. To keep the bowels quite loose, a drachm of compound jalap powder was given in hot orange leaf tea every four or six hours. This fever mixture was given in every case.

℞. Tinct. aconiti rad., f℥j.
Spir. Ætheris nitrosi f℥j.
Liq. Ammon. acetatis f℥vij. M.
Sig. Teaspoonful in hot orange leaf tea every hour during fever.

Under this eliminative treatment the fever lasted from a few hours to one or more days, rarely more than four, although in some few cases considerably longer. As soon as there was a remission of the fever, all the above treatment was stopped: and quinine in five grain doses was given until about a drachm was taken. The only time to give quinine is at the intermission following the primary pyrexia. When quinine is given promptly, at this never so short interval, it seldom fails to stop the disease before it reaches the third stage of secondary fever, with increased prostration, too often ending in black vomit and collapse.

Dr. Gibbs gave quinine at the first appearance of yellow fever. I gave it at the remission. The advantage of the quinine given at the remission is, that there was scarcely a relapse of the fever after its use: in fact, we cut short the disease at the remission. Quinine, as I gave it, cut short the disease at least from one to four days. We found quinine worthless as a prophylactic. The temperature from this time on was subnormal. I gave

℞. Tincture cinchon comp., spts. vini gallici, āā f℥v. M.
Sig. Take a table spoonful in sweetened cold water every third hour.

This stimulant-tonic gave patients an excellent appetite, and they soon gathered strength from its use.

As to food, the less taken until the fever is gone, the better it is for the patient; in fact, those who took a hot bath, hot orange leaf tea, compound jalap powder, the fever mixture and nothing else until the fever was off, fared the best, and made the most rapid recoveries. One of the very best foods used here during convalescence, was Malted milk. The stomach, in this disease, is an organ which must be treated with the greatest delicacy, as the object is to avoid the much dreaded black vomit. I had three cases recover from black vomit. The treatment of one was:

℞. Quininæ sulp., ℥ss.
Spt. vini gallici, ℥vj. M.
Sig. Tablespoonful every half hour.

This patient was almost moribund, hence the stimulant. Lime water stopped a second; and the third recovered after,

℞. Bismuth subnit. ℥ij.
Creasote gtt. x.
Cocaine gr. iij., m. f., chart no. x.
Sig. One as needed for sick stomach.

The last is a most excellent anti-emetic; in fact, the best I know for the persistent sick stomach of yellow fever. A few notes on other remedies might be in order, as for instance: antipyrin and antifebrin, if given in adequate doses, will cause the fever to drop much more rapidly than the fever mixture used by me, but, they do not have so good an eliminative action upon the skin and kidneys as does this mixture. Another fault with them is, they often bring the fever down quite rapidly, but they can not hold it down, so it rebounds and often goes higher than before they were given. Sternberg's mixture of corrosive sublimate and bicarbonate of soda, was a great favorite with too many physicians during our epidemic. I have never prescribed it; and the greatest use that I have seen from it in the hands of other physicians is: that it so irritates the already supersensitive stomach, that they have no trouble, from its use, to produce black vomit and death. A careful study of the unsuccessful treatment used in the various epidemics at Memphis, New Orleans, Shreveport, Charleston, Savannah, and many other places taught me to avoid their *sine qua non*, calomel; also ice, cold in all forms, opiates, bichloride of mercury, the salicylates, the carbolates and all that class of antibacterian remedies. The exigency is: *warmth and evacuants*; these pure and simple, if commenced within a short time from the inception, say from three hours to half a day, will not permit a loss from yellow fever of over one per cent. Calomel is an almost universal remedy for yellow fever; but this is a patent fact; that those physicians who used it here most freely, wrote most burial permits.

Probably the best intrinsic history of an epidemic is to be found in a record of the cases lost, and the cause of that loss. My first loss was a small colored girl, case No. 9. Having formerly practiced medicine north of the yellow fever belt, this epidemic was my first experience with this peculiar disease, and this loss was caused by a want of knowledge on my part of the proper management of a genuine severe case of yellow fever.

My second loss was my 19th case. This was a strong, healthy young white man who had been sick three days. One night he became restless, and the professional nurse concluded his previous knowledge of yellow fever would now come in to supplant the medicine ordered for the patient. So, in my absence, he drew out his hypodermic syringe and gave the patient a good quieting dose of morphine. The patient went to sleep; and it may be that the horn of Gabriel will be able to awaken him out of that morphine slumber. I could not, for when I saw him the next morning he was cold and dead. Morphine in this disease always does harm. I have never used it, because it stops the skin, bowels and kidneys from their great emunctory function of carrying off the ptomaines and microbes. My third and fourth losses, cases 35 and 36, were an old man and a young boy, both white. They had insufficient bed clothes, no fire; each was in a cold room by himself, with only one nurse to attend their wants. This she did as best she could. The weather was damp, cold and very chilly. No amount of good nursing nor scientific medication will take a case of yellow fever safely through wherein cold weather is not counterbalanced by good warm bedding and a comfortable room. That cold produces death, and warmth promotes health, is a well established yellow fever axiom. My fifth loss, case 52, was a very delicate young white girl, backward in her development. She had all the home comforts, good nurses, consulting physicians; in fact, everything that money could buy, except health. She died with black vomit.

My sixth loss, case 343, was a white woman, past middle life, who had nursed a paralytic until she was exhausted and completely worn out: then she took yellow fever. For two days she would not have medical attention; when seen, she was frightened, almost frantic, would not take medicine nor do anything advised; was fearful she would die, and thus she helped Bronze John to give her black vomit. The first two days are of more importance in controlling yellow fever, than in any other disease in the whole category of fevers. That time lost, and the patient rarely recovers.

My seventh loss, case 381, was a colored male nurse who had been nursing yellow fever cases for weeks. When he himself took yellow fever, he refused to have a physician called, nor would he do anything to combat his disease.

I saw him but once, at 9:30 P.M. He had then been sick just one week; was pulseless, cold, could not swallow, was covered with an old blanket and a piece of carpet. No fire was in his damp, cold room. He died with black vomit before morning.

My eighth loss, case 441, was a strong and naturally healthy negro man. He went through with yellow fever all right, and was discharged. Two days afterwards I was recalled; he then had double pneumonia. His neighbors told me, that he had gone up town, caught cold; and thus he furnished another illustra-

tion of the great need, in this disease, even after having passed its most trying ordeal, of being very careful as to exposure for a week or more after having been discharged.

My ninth loss, case 481, was a long, lean lank Florida cracker. He was half fed, half clothed, and stayed—for he never lived in the proper sense of that word—in a cold, open, one roomed house, which was not plastered, in fact, the natives here seldom go to the trouble and expense of plastering the interior of their homes. There were six others sick in this room; he had no bed nor bedding, but lay upon the floor with his ordinary scant cotton clothing on. There was no fire in the house, nor was there a stove nor fire place wherein one could be made. The cooking was done in iron pots in the back yard by an old dried up specimen of possible humanity having some resemblance to a woman. She was smoking a strong pipe, and was, with the two pots, surrounded by dogs and children. Grits, bacon, and coffee sweetened with "long sweet"—as the natives call Florida syrup—was all they had to eat. I gave them a mattrass, blankets, and a liberal supply of food from our commissary, but neither these nor medicines did any good, for he died on the third day with black vomit.

My tenth loss, case 514, had long passed middle life. He had just been on a spree, from which he had hardly sobered up when he was taken with yellow fever. He and John Barleycorn were great personal friends—too great, in fact, to successfully combat Bronze John; for it is a notorious certainty that the tippling class of patients have seldom withstood the ravages of this disease during this epidemic. He had been sick three days when I first saw him. He was frightened, fearing he had yellow fever, for too well he knew that many who imbibed alcoholics had already died. His pulse was 70, temperature 102½ F., enlarged white furred tongue, eyes and skin yellow, bowels constipated, urine scanty, highly albuminous and of a dark brown color. His stomach was in a wretched condition and would retain nothing; hence, no medicine acted to retard the progress of his case to a fatal issue with black vomit. This patient in his mad frenzy grabbed a butcher's knife from an adjoining table and rushed at his nurse, but fell dead upon the floor. He did not reach her with the knife, but as she fled he covered the whole back part of her dress with his black vomit.

My eleventh loss, case 516, was an Italian woman. She could not speak English, nor could I speak Italian. No interpreter was to be had. Her husband and I tried pantomime for directions as to the giving of medicines and proper nursing. We failed. She chewed up my thermometer, and died with black vomit.

To show the portability of yellow fever germs I will cite the case of Mr. S. J. Dugan. He is an intelligent Arab-native of Jerusalem, Palestine—who had spent two winters in Florida. He left Jacksonville, May 20, 1888. Was ten days en route to Lawrence, Mass., there he remained three weeks. Then he went to New Hampshire, remained one week, and on July 1, 1888, arrived at his summer home, Block Island. He was then in excellent health. On July 2, 1888, he opened a lot of shells, alligators, and other Florida curiosities, which had been sent him by rail from Jacksonville, Fla. On July 6, 1888, he was taken sick with a genuine case of yellow fever. He says he had black vomit for four days, and in conversation April 14, 1889, he gave me all the usual symptoms of yellow fever, besides, that was the diagnosis of the Portuguese physician who attended him at Block Island. His physician had been conversant with yellow fever in South America, and also in Mexico, hence there can be no doubt that the boxes of curios shipped from Jacksonville, carried the disease to Block Island.

There is a peculiarity about the contagiousness of yellow fever which is unique. People living at Pablo, and in the country, came to Jacksonville with impunity, if they did not enter town during, or remain in after the dew period. This was from 9 A.M., to 4 P.M. As an exemption case, I will cite the last case of the epidemic, my 594th. During over two months he came to Jacksonville every day from his dairy farm five miles distant. He came at 9 A. M., left before 4 P. M., except one night he did not get out of the city until 8 P. M. Two days subsequently he had an attack of yellow fever—from which luckily he recovered.

43 Julia Street.

THE NERVOUS ELEMENT IN THE VOMITING OF PREGNANCY.

Read before the Chicago Medical Society.

BY L. HARRISON METTLER. A.M., M.D.,
OF CHICAGO, ILL.

Mr. President and Fellow-Members:

In presenting this paper I do not hope to advance any radically new ideas, but rather to emphasize certain facts in regard to the nervous element in the vomiting of pregnancy which seem to have been indifferently considered throughout the voluminous literature upon the subject. It is surprising, as well as unfortunate, that so many physicians look upon the vomiting of pregnancy as a trifling matter. One writer says "that although the morning sickness sometimes persists during the whole period of pregnancy, it remains endurable, causing the patient annoyance rather than injury. The digestive functions remain more or less normal, and the vitality of the patient is not essentially impaired." Such has not been the result of my own observation. The distress alone, in even the mildest cases, is a constant tax upon the woman's nerves, and as a result she is less able to endure parturition than she otherwise would have been. After careful inquiry I find that women who suffer from much morning sickness have, as a rule, tedious or otherwise troublesome labors. I have even observed in multiparæ that at one time they will have much nausea and vomiting, followed by difficult labor, while at another time they will be quite free from the vomiting, and will pass through the succeeding labor with comparative ease. I confess that I have never had the simplest case of morning sickness that did not give me a certain amount of anxiety. Not only do I fear its becoming uncontrollable at almost any time, but I anticipate a confinement more or less troublesome, in proportion to the amount and duration of the nausea and vomiting. Remembering how readily the mild forms sometimes assume the pernicious type, and how frequently fatal the latter appear to be, it would seem that this indifference to the subject is entirely inexcusable.

As an illustration of the contradictory state in which our knowledge of the vomiting of pregnancy

still remains, the writer just referred to describes the benign and malignant characters of the affection in almost the same paragraph, and then asserts that "even the graver forms of this disease yield, as a rule, to rational treatment, unless they are complicated by serious pathological conditions which of themselves render recovery impossible. Pregnancy may aggravate such cases, and perhaps hasten death, but it must be admitted that there exists no causative relation between gestation and the lethal issue." I am at a loss to understand why such cases are denominated the vomiting of pregnancy any more than the vomiting of chronic lead poisoning or of brain tumor should be so called if these happened to complicate the pregnant state.

Gueniot declares,[1] rather dogmatically, that "one thing is positively known and incontestable, namely, that the pregnancy is the prime cause of the incoercible vomiting, since without it the vomiting does not occur," and that according to his own "observation, as well as study of the cases reported up to the present time, the most frequent cause is a morbid or abnormal state of the uterus." Then, as a kind of proof to this assertion, he cites a case that he saw "a dozen years ago" in which the cervix, strongly flexed, was crushed down by the weight of the superincumbent body upon the floor of the perineum. The relief of this state of affairs resulted, of course, in the disappearance of the vomiting. Again I question whether such a case ought properly to be considered an example of the vomiting of pregnancy. The pregnancy had about as much to do with the development of the vomiting as sitting upon damp ground has to do with the production of the vomiting which usually accompanies the resultant dysmenorrhœa. Let us be precise in our distinctions and not credit normal physiological processes with symptoms that belong to gross pathological lesions.

Certain authorities, notably the American System of Obstetrics, go so far as even to apply the adjective *physiological* to the vomiting of pregnancy. Now, vomiting is never a physiological process in man—a statement in which I am supported by Flint, in the last edition of his Human Physiology. The fact that it occurs in some pregnant women and not in others; that temperament, nationality, and climate manifest an extraordinary influence upon it, and that it not only accompanies pregnancy, but many very dissimilar affections of other organs and parts of the body, seems to my mind to protest most vehemently against its ever being called a physiological phenomenon. It is emphatically pathological, and the failure to regard it so will occasionally end to the disaster of the patient, and at all times to its incomplete scientific investigation.

Pregnancy, on the other hand, is a physiological process, and if normal in a normally healthy woman is hardly conceivable as the cause *per se* of so forlorn a condition as is the frequent vomiting. A normal physiological process ought rationally never to produce a pathological state. The usual absence of vomiting of pregnancy amongst barbarous women, and amongst races and nationalities possessing strong physical constitutions, tends to confirm this. From such a rigid standpoint, then, we must cease to believe that pregnancy is the prime source, though we may still regard it as the inciting cause when certain pathological conditions are present. We must look elsewhere for the real cause than merely at the developing ovum within the uterus, and in doing so we must look for and expect to find some lesion, organic or functional, if you please, but one decidedly of a pathological character. I do not consider this a mere quibble about terms, but as a necessary and unavoidable hypothesis for the further study and right understanding of this much confused subject.

It would be time wasted to attempt to enumerate all the etiological reasons that have been given by different writers for the vomiting of pregnancy. In a kind of despair at ever finding any one cause for so variable and uncertain an affection, most authors have come to the conclusion that it is the result of many causes operating together. Perhaps that is the safest view to adopt in accordance with our present knowledge, but it ought not thereby to limit further investigation, for undoubtedly there is a cause which is preëminent above all others, and which is common to a greater or less degree to all cases alike. It seems to me that that is to be found in the nervous system.

Consider for a moment the explanations given by some of the authorities, and note how they bear upon this hypothesis. The oldest view is that the morning sickness of pregnancy is purely and simply a reflex phenomenon. This is most plausible, as many other affections of the genital organs, as well as of other parts of the body, give rise to sympathetic vomiting. A modification of this old view is that lately proposed by Dr. James Oliver[2] to suit the modern theory of evolution. He infers a hereditary interaction between the centers that preside over nutrition and procreation. This has been transmitted from primordial ancestors in which self-preservation, represented by the two elementary functions of self-nutrition and propagation of the species, is the chief end of existence. This is certainly ingenious, but quite unnecessary to explain so common a phenomenon as reflex action. The argument, however, points most decidedly to a nervous cause of the trouble, and it needs only to be added that the weaker or more irritable the reflex centers the more violent and uncontrollable will be the vomiting. According to this explanation, however, the vomiting is not essentially the vomiting of pregnancy, any more than the vomiting which accompanies biliary or renal calculi, cerebral or medullary diseases, intestinal obstruction, certain mental emotions, and perverted sensibilities is the normal physiological accompaniment of these affections. It is a nervous vomiting simply, and a coincident symptom of pregnancy, indicating an abnormal state of the nervous system, incapable of resisting the strain exerted upon it by a normal process. Nay, more, just as the above-named diseases cause vomiting by reason of an underlying pathological condition, so *vice versa* it would seem that the so-called vomiting of pregnancy must after all be the result of some concealed lesion.

Dr. Blume,[3] of Allegheny, reiterates this view when he says that the vomiting of pregnancy "is almost universally accepted to be a reflex neurosis originating in the uterus and dependent either upon pregnancy alone, or upon coexistent pathological conditions." Such a conception of the etiology does not seem to me broad enough. Would the healthy nervous system, in the absence of any uterine or gastro-intestinal lesions, cause vomiting with the pregnancy

[1] Bulletin de L'Academie de Medecine, Sept. 17, 1889.

[2] British Medical Journal, 1887.

[3] Journal of American Medical Association, August 22, 1891.

of one woman and not with that of another? Is it reasonable to suppose that a normal physiological process like pregnancy should, under the same conditions, give rise to severe vomiting in a woman with some of her pregnancies and not with others? The morning sickness is undoubtedly a reflex neurosis, dependent sometimes upon a gross discoverable lesion, but more often not. We must conclude, therefore, that in this latter class of cases the principal source of the trouble resides somewhere within the nervous apparatus.

To say that the relief universally afforded by the induction of abortion is proof positive of the uterine origin of the disease, irrespective of the nervous system, is fallacious reasoning. In the first place, abortion does not always give relief. Flaischlen[4] reports five cases of pernicious vomiting, in which induced abortion gave prompt relief in two of the cases, while two died in spite of this procedure. In the second place, abortion affords relief much as the amputation of a limb would for a painful neuroma. It is a most heroic and rarely needed therapeutic measure. It proves nothing in regard to the etiology of the trouble, since it is too overwhelming in its effects for us to derive any delicate inferences from.

Dr. Blume relates an instance of the death of a fœtus in utero with immediate cessation of the vomiting, and the delivery of the dead fœtus four months later. He says that there was a double laceration of the cervix, ectropion, and a partially cured endometritis, and yet the vomiting ceased immediately upon the death of the fœtus. He infers, therefore, that the influence of the growing ovum and the stretching of the uterine fibers must have been the cause of the vomiting. I fail to see the force of the argument. It is a familiar fact that the vomiting of gestation often terminates abruptly without there being any satisfactory explanation, other than some sudden and profound impression made upon the nervous system. Such freaksome phenomena are chiefly characteristic of the neuroses; and such cases as the above are too rare and too uncertain to establish any corollaries upon.

Again the same author, like many others, accounts for the greater frequency of the affection in primagravidæ to the "greater resistance of the virginal uterus," a fact much more difficult to prove, and less frequently true, than the fact that in primagravidæ the nervous system is always more or less overwrought, because of the young wife's lack of experience, dread of parturition, and sudden change from a non-bearing to a child-bearing woman.

Gueniot[5] divides the causes of the vomiting of pregnancy into those of the uterus, the nervous system, and the stomach. He then briefly delineates the particular lesions found in each. In connection with the uterus he notes that the morning sickness is often associated with flexions of the neck and body, tumors, inflammatory and ulcerative conditions of the cervix, hyperæsthesia of the genital tract, chronic and subacute inflammation of the uterine parietes and appendages, disease of the ovum itself, and not unfrequently the absence of all evidences of uterine trouble. This is a formidable array of causes to originate so common, so uniform, and regular a trouble as the vomiting of pregnancy. As eccentric irritants, we can conceive how occasionally these various lesions, when complicated with pregnancy, may give rise to pernicious vomiting; but when we remember how often women, both pregnant and non-pregnant, suffer from these troubles, yet experience no morning sickness, or, at least, a very mild form of it; and again, when we remember that when these causes are present the vomiting bears no direct proportion in its severity to the severity of the lesions, we feel obliged to look elsewhere for the real source of the trouble, and to regard these merely as possible and occasional exciting causes.

For the relief of the vomiting Gueniot very justly recommends the usual gynecological treatment of these lesions. The question naturally suggests itself here, however, if these had been treated and cured prior to the pregnancy, would the patient have been free from morning sickness during her next gestation? Many reported cases seem to indicate a negative answer; the one previously related from the experience of Dr. Blume is an instance in point. Women who are perfectly free from all uterine disease, as well as women who have been cured of the same are occasionally the victims of most pernicious vomiting. Hence, we must eliminate lesions of the uterus and its appendages from among the true causes of the essential vomiting of pregnancy. How shall we account, then, for the relief which commonly follows the treatment of these lesions? First by the removal of the complication, and secondly by the impression made upon the nervous system. Gueniot himself recommends in the non-operative treatment of the uterine lesions to which he attributes the uncontrollable vomiting, such drugs as belladonna, cocaine, and morphine. Dilatation of the cervix might justly be classed under the same therapeutic head, for it acts upon the nerves much as it does in the relief of vaginismus. The treatment for the vomiting of pregnancy then, when it is associated with uterine lesions, is, after the removal of these complications, largely a treatment of the nervous system; but these cases are only a small part of those affected with the morning sickness.

In his second class of causes, Gueniot discusses the reflex centres of the nervous apparatus. It is to be regretted, he says, that physiology has not yet settled upon the particular location of the vomiting centre within the medulla; but that is not an important desideratum so long as we know approximately where to make the appropriate topical applications. According to some the reflex trouble is all in one spot, somewhere beneath the calamus scriptorius. Others believe that the fault is in the pelvic plexus of the ganglionic nerves. A few think the whole spinal cord is the hypersensitive area, while still others attribute the hyperæsthesia solely to the terminal nerves within the uterus. A writer for the *Lancet* says that during twenty years he has never failed to check completely all forms of the vomiting of pregnancy by a single vesication over the fourth and fifth dorsal vertebræ. The whole question as to the nervous seat of the trouble seems deluged with confusion. The variety of therapeutic measures employed to suppress this nervous reflex indicates the same sort of complexity. The internal administration of chloral and the bromides, the hypodermatic use of morphine, ice bags, and blisters, the ether spray, and the electric current have all been tried with variable success. One woman was completely relieved of an incoercible vomiting by a simple vaginal exam-

[4] Zeitschrift für Geburtshülfe und Gynäkologie, Band xx., Heft 1.
[5] Loc. cit.

ination. She imagined that the ovum had been removed from the uterus, and though nothing had actually been done, when she recovered from the anæsthesia, there was no further return of the nausea. In the words of the writer for the *Annual of the Medical Sciences*, of 1888, "the result in this case led Chazan to the very probable hypothesis that in many cases of the disease it is dependent upon a general malady of the nervous system or upon psychical disorders, and not the result of an anomaly of the genital organs. The hypothesis embodies more truth than many of those which have been suggested in explanation of the obstinate vomiting of pregnancy and suggests that regard for the general condition of these patients is all important, and that frequently a profound mental impression may be more efficient than any of the alleged specifics for the disorder."

Gueniot's third class of causes, those of the alimentary canal, are commonly enough encountered and are so reasonable as to need but a passing word. Gastric ulcer, gastritis, chronic gastric catarrh, neuralgia of the stomach and constipation are so generally accompanied with vomiting that the advent of pregnancy along with any one of them, is scarcely ground enough for denominating the sickness the *vomiting of pregnancy*. The association of the vomiting and pregnancy may have been a mere coincidence, or the alimentary lesion may have been merely an eccentric irritant to an already disordered nervous system. These lesions, like those of the uterus, are far too varied in character, too dissimilar in different patients and too unfrequent to be assigned as important causes for the frequent, uniform and singularly physiological-like phenomenon of the essential vomiting of pregnancy. Like the uterine lesions they need treatment, of course, as complications. The remedies usually employed by the mouth, and as a rule, they are very few in number, exercise a sedative or stimulative action upon the terminal nervous apparatus of the stomach, and through it upon the general central system. Gueniot substitutes alkaline for all acid drinks, applies fly blisters to the epigastrium and administers laxatives freely.

In connection with these uterine and gastric causes, permit me to quote a very pertinent remark of Horocks. He says "where there has been no post-mortem examination in a fatal case of vomiting, I do not think that one is entitled to say that pregnancy caused the fatal vomiting. It may have been the cause and the only cause, or it may have been an aggravation of some other cause, or it may have had nothing to do with it. Skepticism as to the alleged frequency of this disorder, in the present state of our knowledge is accordingly eminently in order."

In an exhaustive paper on the subject Horwitz, of St. Petersburg, adopts the term "vomitus gravidarum perniciosus," and draws a sharp distinction between this form of the trouble, which he says usually occurs between the tenth and eleventh weeks, and the mild morning sickness, which commonly makes its appearance in the early part of the pregnancy. Gueniot on the other hand asserts that "there is no difference between the ordinary morning sickness and uncontrollable vomiting, but a difference of degree."

I believe that it is in the uncontrollable cases generally that some complicating lesion, such as those enumerated, will be found, but I do not feel that we are warranted in calling such cases the *vomiting of pregnancy*, as we do those where no cause can be discerned save the simple aggravation of a perverted nervous system by gestation.

It seems then that it is the nervous system which is really at fault in the true, uncomplicated vomiting of pregnancy. In the majority of the reported cases the patient has been of a decidedly neurotic temperament, or else the victim of some particular form of nervous debility. My own experience confirms this. Excepting a few cases in which there was a complicating stomach or uterine disorder, I cannot recall one under my own observation in which the vomiting did not show a severity, more or less proportionate to the amount of nervous debility. As Ranney remarks,[6] the *vomiting of pregnancy* is essentially a nervous vomiting and is comparable to that which accompanies chlorosis, hysteria, and gastrodynia. "It is not to be confounded with that of local diseases of the stomach or of the alimentary canal, since the symptom depends purely and exclusively upon some abnormal condition of the nerves, rather than upon pathological changes in the stomach or intestine."

So decidedly neurotic in its origin is this form of vomiting that Flint speaks of a chronic variety of dyspepsia frequently occurring in young girls, due to a vitiated nervous system, that is hard to differentiate at times from the vomiting of pregnancy.

The group of remedies possessing the endorsement of the highest authorities, and found more frequently to relieve the morning sickness, are the nerve tonics and sedatives. Opium, chloral, the bromides, nux vomica, belladonna, cocaine, arsenic, external application of heat and cold, vesication and electricity are more commonly employed than anything else. In very many cases the vomiting does not return after the withdrawal of the remedy, a fact which proves that the nervous system had been somehow profoundly affected, and that the vomiting was therefore not due solely to a uterine or gastro-intestinal lesion.

There is normally a double force exercised by the nervous elements. One is a kind of objective force, and is seen in all the ordinary manifestations of nervous activity. The other is more of a subjective force, and is indicated in the popular phrase, "power of self-control." When there is perfect equilibrium between these two forces so that the individual is unconscious of discomfort, while to others he appears at perfect ease, the state in regard to the normal nervous system at least may be characterized as one of perfect health. Such perfect health, however, is rare under our modern civilization with its high nervous tension, caused by sharp competition and an excessively emotional mode of life. The delicately organized nervous system is the first to feel the strain, the normal equilibrium between its elaborating and resisting powers is disturbed, and the patient soon succumbs to a state of abnormal stupor or irritability. Neurasthenia is the modern term to describe this condition. It can scarcely be called a disease, and yet it is far from being a state of health. It is simply exhaustion, deterioration, lowered vitality. It indicates a need of tonic treatment, but treatment of the most diverse sort for different patients. When such a patient becomes pregnant, the whole nervous apparatus manifests an unusual sensitiveness to the physiological change, and together with a host of other symptoms, reveals it by an abnormal action of the alimentary canal. If, in addition to gestation,

[6] Applied Anatomy of the Nervous System, Second Edition, p. 504.

there be any lesions of the uterus or stomach, the effect upon the debilitated nervous system will be all the more pronounced. This, it seems to me, is the true cause of the vomiting of pregnancy, and, at the same time, the true explanation why long standing troubles of the uterus and stomach give rise to an obstinate vomiting when the woman becomes pregnant, though previously they caused her not the slightest uneasiness.

This conception of the origin of the vomiting of pregnancy discountenances the notion of its being dependent upon any one centre in the medulla. The genital and nutritive centres may be closely united and there may indeed be a special vomiting nucleus. These may all, or each, be affected along with the whole of the nervous system, but both reason, and the results of treatment, argue that only in a small number of cases is the vomiting due solely to such centres, if at all. Indeed, the act of vomiting seems rather to be the result of a lack of proper coördination between widely separated parts of the nervous system. This is shown by its presence in so many, and such diverse states of disease. At times it is purely mental in its origin, at others it is distinctively due to some organic lesion. Even in health any unusual change of environment or abrupt alteration in the organism itself will cause more or less vertigo, with nausea and vomiting. Such cannot possibly be the result of a defect in one small spot of the cerebro-spinal axis, as I have already shown in a paper with report of a case of aural vertigo, read before the Philadelphia Neurological Society, and published together with the discussion in *The Journal of Nervous and Mental Disease*, for January, 1891.

On this subject let me quote Mills,[1] who represents the most advanced school of physiologists. He says, "the vomiting centre is usually located in the medulla, and is represented as working in concert with the respiratory centre. But when we consider that there is usually an increased flow of saliva, and other phenomena involving additional central nervous influence, we see reason to believe in coördinated action implying the use of parts of the central nervous system not so closely connected anatomically as the respiratory and vomiting centres are assumed to be. Indeed, it does not seem probable that the doctrine of centres in its present form, especially with such precise limitations anatomically and physiologically, will continue to be maintained. We seem to have been overlooking the connection of parts, while occupied with defining their limits."

When this power of coördination is disturbed or weakened by a general nervous debility, vomiting will be excited by the most insignificant causes. This is the reason, I believe, that pregnancy, a normal physiological process, and a condition to which a healthy, well-developed woman is frequently and successively liable, during the best part of her life time, causes such distress, and such an unnatural pathological condition as the so-called vomiting of pregnancy.

In conclusion, let me reaffirm that the simple, uncomplicated vomiting of pregnancy is a nervous disease, a neurosis, if you please, dependent upon an aggravation of a debilitated nervous system. The vomiting due to gross uterine or gastro-intestinal lesions, complicating pregnancy, ought not, for the sake of scientific accuracy, be classed as the vomiting of pregnancy. Such should be regarded as special diseases and so treated. By the adoption of such a strict criterion, much of the confusion now surrounding the whole subject will be cleared up by the segregation of that class of cases in which no discernable lesion is the cause of the vomiting, but in which it will be found that the nervous system is chiefly at fault and needs the appropriate general treatment.

4228 Greenwood Ave., Chicago.

[1] Text-book of Animal Physiology by Wesley Mills. D. Appleton & Co., 1889, p. 340.

INTRACRANIAL CLOT FROM INJURY WITHOUT FRACTURE OF THE SKULL.

BY C. E. RUTH, M.D.,
OF MUSCATINE, IOWA.

Case 1.—May 9, 1891, Dr. C. W. Battey requested me to see L. G., aged 5 years, in consultation with him. Four days previously she had fallen fifteen and a half feet, striking her head on a plank sidewalk. She was picked up unconscious, but remained so only for a few moments. Physicians who examined her immediately found no fracture, depressed bone, or other evidence of serious injury.

Since the fall she had had no opiate or sedative of any kind, yet had no pain, ate well, bowels open, and slept eighteen hours in twenty-four; answered questions correctly, but hesitatingly; protruded and retracted the tongue like a typhoid patient. Sensation and muscular coördination was perfect. Temperature 99½° F., pulse 72. There was great discoloration of all the palpebral and ocular tissues, with sufficient œdema to completely close the right eye and prevent inspection of the right pupil. Left pupil responded readily to light. The discoloration extended over a considerable part of the right temple. There was a small, flat circumscribed swelling over the left parietal bone, 1¼-inch to the left of the bregma, and limited anteriorly by the fronto-parietal suture. The extravasation of blood into the ocular, palpebral, and temporal tissues was not due to direct contusion of the parts, but to laceration of vessels deeply placed in the orbital cavity, with possibly fracture of the horizontal portion of the frontal bone, due to transmission of force from the superior portion of the cranial vault. At least, such was my opinion, and the subsequent history proved its correctness, in part, at least. There was no solution of continuity in the integument, and I could find no disturbance in the normal relations of any osseous tissue. I diagnosed intracranial clot, and gave an unfavorable prognosis unless it could be removed, but was not certain whether it was located under the small parietal swelling, where I believed the impact occurred, or at the floor of the anterior frontal lobe on the right side. Deciding in favor of the former, I cut down on the enlargement and turned out a clot which had formed under the pericranium, and dissected it from the bone over a space as large as a silver dollar. Removing a disc ¼-inch in diameter from the center of the pericranial denudation, directly over the course of the anterior branch of the middle meningeal artery, brought another clot into view.

This second clot was dark and grumous, $\frac{3}{16}$ of an inch in thickness in the middle, and about one inch in diameter. It had formed between the dura mater and parietal bone. The artery bifurcated just before reaching the lower edge of the trephine disc, and both branches had plainly grooved the bone. In the

formation of the clot, the dura, with the meningeal vessels, was carried before the clot inward against the brain, and out of the way of the trephine. The vessels could be felt pulsating on the dura mater after the clot was removed. The disc was $\frac{1}{32}$ of an inch in thickness on one side, and practically devoid of diplœ, while the other side was $\frac{1}{8}$ of an inch in thickness. The external and internal periosteum being removed for some distance beyond the disc margins and the possibility of a small fragment of the clot being left, decided me in favor of drainage, and not to replace the disc. Operation and dressings were as aseptic as hurried preparations and unfavorable surroundings would make possible, and recovery was uneventful with practically normal temperature, and complete in two weeks. I think many cases of death in children, diagnosed and treated as brain fever or meningitis, are due to injuries received by falls and blows days and weeks before, in which an intracranial clot was produced, followed by degeneration in and around the same. I can recall cases in my own experience in which this was probably the case. In nearly all these cases the hæmorrhage is meningeal and consequently amenable to treatment if its location can be diagnosed, for the danger of a trephine operation if carefully and aseptically done when the dura is not opened is not great, while death is almost inevitable if the clot is not removed. We can, I think, expect to find these cases of meningeal hæmorrhage without fracture only in children. To produce laceration of a meningeal vessel without fracture of the skull, we must have a thickness of bone and elasticity which will make it possible to drive the bone inward upon the brain, and yet be able to regain its normal position, with so great speed as to make it impossible for the softer and less elastic brain and membranes to follow it, and so are torn from their attachments to the bone. Again, if we have a portion of the skull very thin, surrounded by rapidly thickening skull, as in my case, if the thin portion were driven in and succeeded in regaining its normal position it would do it with great velocity. We know that the recoil in a spring is sometimes sufficient to throw out a piece of the spring on the convex side. This I offer as the only explanation of the lacerations of meningeal vessels, unaccompanied by fracture of the skull, which is satisfactory to my mind. We can see that the liability of such occurrences must rapidly decrease as age advances.

Conclusion.—As these cases seldom come under the surgeon's care until grave symptoms develop, at a more or less remote period from the injury, I think we should sound a note of warning to physicians, not to lightly consider head injuries that from the supposed impact might be serious. They should carefully note every evidence of external injury, obtaining if possible distance fallen, size, weight, and velocity of missile doing the injury and exact point of principal impact and its direction, and keep the cases under observation, making careful records at the time. He should let at least three months pass before being willing to declare his patient safe. These notes and histories may be of incalculable value to the surgeon when every external evidence of injury has disappeared and the occurrence, possibly, passed out of mind of the friends.

Jan. 11, 1892.

SOCIETY PROCEEDINGS.

Allegheny County Medical Society.

Meeting, December 15, 1891.

T. D. DAVIS, M.D., PRESIDENT, IN THE CHAIR.

Subject for discussion, SYPHILIS.

Dr. Thomas: It was but a few days ago that I received a notice requesting me to open a discussion at this meeting. It is usual to open a discussion with a well digested paper. The time has been so short that it would be impossible for me to prepare anything worthy of the dignity of a "paper." What I shall present will be more in the form of a syllabus, expecting you to elaborate.

First. How long is syphilis contagious?

The profession, as a rule, does not have definite and uniform opinions upon this point. Judging from remarks that I have heard made at various times, some believe that there is no limit to the *contagious* character of syphilis, forgetting that the disease is a self-limited one.

Possibly I can formulate my views better by reporting three cases, from a number of similar ones, from my case-book, as follows:

Case 1.—Mrs. A., married, when the man who became her husband was in the secondary (end of first year) stage of syphilis. In ten months afterward she gave birth to a very large (weighing 12 pounds) and healthy looking child. The child was still-born, not from syphilis, but from asphyxia, owing to tardy delivery of the head, the presentation being pelvic. The case was in charge of a midwife, and when I arrived upon the scene I found a dead child hanging from the vulva.

In nine months after she gave birth to a macerated fœtus of five months of utero-gestation.

In another eleven months she again gave birth to a macerated fœtus of seven months utero-gestation.

In one and a half years more she gave birth to a full term and healthy looking child. In a short time this child developed a papular syphilide. It remained under my care for two years, and is to-day a large and healthy looking lad.

In another twenty-one months she gave birth to a fine child that never presented the least suspicion of syphilis.

In two years more she gave birth to a healthy child, which is now nearly three years old, and has never shown any evidence of syphilis.

Mrs. A. has been under my continuous observation since her first accouchement. I have been unable to get a history of primary lesion or secondary symptoms in her case; she passed through them without her knowledge, but I have treated her for serious tertiary lesions, such as deep ulcers on the posterior fauces, headache and syphilitic liver.

In this case supposing the mother acquired syphilis in the early months of marriage, the contagious character of the disease disappeared in about four years. She received no treatment for her early syphilis.

Case 2.—Mr. B., in the summer of 1885, acquired a chancre on the lip through kissing a prostitute, and conveyed the disease to his wife, who was also treated by me. They already have several children.

On March 3, 1886, a living child is born, but dies in five months from marasmus, having been puny from birth.

On May 30, 1887, at full term, a macerated child is born.

On August 31, 1888, a healthy child is born and remains free from the disease.

On February 17, 1890, a healthy child is born and so remains to the present time.

In this case the mother ceases to convey or transmit the disease in less than three years.

Parenthetically, I mention that Mr. B. also conveyed the disease to his little son, two years of age, by kissing him on the forehead where there happened to be an abrasion, for it was here the chancre developed. Recovered.

Case 3.—Mrs. C. contracted a chancre about the time of her marriage, and was treated by me for the secondary lesions. She became pregnant for the first time in twenty-seven months after her marriage. The child was born at full term and apparently healthy, but in about three weeks snuffles began, an eruption appeared about the anus and afterward over the body. After a long treatment it recovered.

In one year and three months after the birth of her first child she again became pregnant, went to full term and was delivered of a healthy looking child. This child is now about three months old and has shown no signs of syphilis. Neither has it received any anti-syphilitic treatment.

In this case the contagious character of syphilis disappeared *before* four years and three months—some time *after* the third year.

You may say that this child is only three months old and that it may develop syphilis later. If a child is born and does not present evidences of syphilis before the end of the third or fourth month it is rare that it ever will. Out of 158 cases summarized by Diday only five cases presented symptoms of syphilis after the fourth month.

In brief, then, I believe that syphilis is not contagious, as a rule, after the third year. Exceptionally in the female it may continue until the fourth year.

2. What secretions contain the syphilitic virus?

None of the *physiological secretions* of the body.

Experiments by inoculation have been practiced again and again with physiological secretions of syphilitic patients upon healthy persons without the production of the disease. Diday and others have inoculated persons with the saliva from syphilitic patients who were free from mouth lesions without results. Spermatazoa from a patient in the heighth of the secondary stage of syphilis have been inoculated, by Mireur, in the non-syphilitic without producing the disease. The same thing has been done with the other physiological secretions of the body and with a like result. The only elements, then, in the body that contain the germs of syphilis are the blood, and the serum which is found upon the lesions of syphilis upon the skin and mucous membranes. A man may be suffering from the secondary stage of syphilis, and providing he be free from lesions of the skin and mucous membranes, may procreate a perfectly healthy child, because he cannot inoculate the mother, and a non-syphilitic mother never brings forth a syphilitic child—she cannot.

Dr. Batten: I have given a great deal of thought to this subject. The presence of the syphilitic germ depends a great deal on circumstances; upon the temperament and the constitution of the patient. In the discussion of this question we have to depend a good deal upon the truthfulness of our patients. It is impossible to watch a patient carefully; we must depend a great deal upon his veracity. Now I believe syphilis may be conveyed a long time after the patient has contracted the disease. For instance, a man had contracted syphilis in about 1869. He married in 1882 a very plump and healthy woman, who weighed about 120 pounds. Shortly after she conceived, and gave birth to a child. Some time during her pregnancy she took syphilis, and I treated her. The child was born healthy, but the mother was reduced to ninety-five pounds. She had a second child, and the second child is healthy. Both of these children are healthy, although the man's appearance denotes that he has syphilis, and denoted that before he was married.

Another case was a man whom I treated for the disease twice. He went through the usual course. He married and his wife has had three children, and they are all healthy. The wife is a healthy, fine looking woman and is well.

Another case that came under my observation was a young man who had the disease. He married and impregnated the wife, and the child was dead in the uterus. Before her next pregnancy I put her under treatment, and since that time her children have all been born healthy, and all are healthy and living at the present time. I believe, and my experience bears me out in my belief, that a person once syphilitic is always syphilitic, and that the disease may be conveyed through any of the secretions of the body.

Dr. Green: I have no criticism to offer on the paper. I believe my observations would lead me to agree with the paper. I might state an example or two that have come under my observation. One case occurs to me in reference to the length of time that the poison may remain in the system and be conveyed to others. I remember treating a young man quite a number of years ago—I think some seventeen, probably eighteen—for syphilis; he went through all the usual symptoms, primary and secondary. I told him not to marry for at least three years. I was not aware there would be no danger at that time, but I supposed the most dangerous period would be passed; but he married short of three years—two years and eight months. I attended his wife in confinement, but failed at any time to observe any syphilitic symptoms in the first child. I attended her in seven confinements, and I never saw healthier children than these. They are all living to-day. When I see them I fail to see any symptoms in any of them; and to show you how violent an attack of syphilis this young man had, he resigned his situation and left the city and went into Maryland while the eruption was on his face. He was completely discouraged during the first year of his illness; it seemed to break his entire constitution, and I cannot tell how it happened these children are so healthy. The father of the children was killed about a year ago. About three months ago I saw the mother of the children, and according to my observation she has never shown any symptoms of syphilis. I could mention numerous instances similar to that.

Dr. Shillito: In 1883 a gentleman came to my office who, at that time, expected to be married very soon, and related this history: He told me that during the war he was a clerk in Washington City. He had contracted syphilis and had been treated by what he considered the best physicians he could find. He came to Pittsburgh and up to that time had one attack of iritis; he had also had a skin eruption. When I saw him he seemed to be a man of average health. The nasal septum was perforated. I told him after so long a time and after having received so much treatment, that there was no particular danger of transmitting it to his offspring. He married. I attended his wife in confinement and delivered her of a living child. I think about one-third of the epidermis of the face had gone and one eye was entirely gone. The other eye was wanting until you could only see a little coloring of the cornea and one spot that seemed to be as large as a pin-head, but since that time it admits a little light. That child enjoys good health, most excellent health, up to the present time, although of course permanently blind. I took special care to watch the mother both before and after for any marks of syphilis. I have knowledge of her ever since until up to a very short time ago, but I have not seen her within a year or two. She has had no evidence of syphilis. I understood about a month ago that she had become insane, or troublesome, and had to be taken away to some asylum. They had but one child. He contracted syphilis during the war, and the child was born in September, 1884.

Dr. Thomas: What was the form of the trouble with the child?

Dr. Shillito: The epidermis of the face was nearly half gone. One eye was entirely gone and the other had just a stump.

Dr. Williams: It may be that the original trouble contracted in Washington City was not syphilis. He might have had bubo, and not had syphilis after all. There might be a suspicion that he contracted syphilis a year or two prior to his marriage, and I think it is certainly a fact that a person may contract syphilis and not have any perceivable primary lesion. I am certain of that. I have had some experience in some of these cases, and it would certainly bear out the statement made by Dr. Thomas; and I could relate a number of instances to substantiate my position. For instance, in one case a young man had syphilitic trouble in 1883, and about the beginning of 1884 was married and his wife was delivered of a still-born child about the beginning of 1885. About ten or twelve months after she had another still-born child. About a year after that she was delivered of a living child. About 1887 and within the past two years I have attended her twice, and her children are apparently healthy and doing fine. This was some eight years after the father contracted the disease. I am certain that if a case is properly treated the liability to convey the disease disappears after a period of three or four years. I think it depends on whether the patient has been properly treated. Unfortunately some of them are not well treated.

Dr. Lange: The matter introduced by Dr. Thomas is one upon which likely no medical body in the world would have one opinion in almost any aspect. For instance, Dr. Batten has said that temperament, disposition, or character has an influence in contracting syphilis—that a plump person with ruddy skin, blue eyes and light hair is more likely to take syphilis than a brunette. In other words, that the so-called lymphatic temperament is a predisposing cause. Now, a good many members here will not agree with that opinion. It may be that a patient of lymphatic temperament will suffer more severely, but I do not agree that such an individual will take syphilis quicker or more readily than a brunette. Dr. Thomas asserts that none of the secretions are contagious if the patient, after having syphilis, presents no symptoms. I have a family in my care where the father contracted syphilis after marriage and after having two robust, healthy children, he himself being a remarkably robust, healthy man, an oil-driller, and his wife being a strong, healthy woman. This man had two children when he contracted syphilis. He had treatment for three years, and at the end of that time presented no symptoms. Then he had two additional children born without symptoms; one of these is now about five years and the other about three. They have presented no symptoms of syphilis. Now he has a child eighteen months old, which is syphilitic very distinctly. It may not be fair to say with some members here that once syphilitic always syphilitic, but it is certainly remarkable that toward the end of life syphilitics who presented no symptoms for many years, again have this disease reassert itself, and often such assertion ends life. This comes as aneurism, apoplexy, atheroma, and as connective tissue hyperplasias of the brain, the liver, the cord, etc.

Dr. Barclay: My impression is, from what I have seen, that syphilis after the secondary stage is possibly not contagious, although I am not certain about that. It is not advisable for persons who have had syphilis to marry short of three years after the syphilitic manifestations have disappeared; that has been my rule, to advise persons who have had syphilis not to marry short of three years after all manifestations have disappeared. I have said to them with a good deal of confidence that I thought it would be safe after that time to marry. I saw recently a young girl who was poisoned by a dentist. The dentist who extracted her tooth abraded her lip. I saw her three weeks afterward, and my opinion was after I examined her that she had been poisoned. I was careful not to give her a positive opinion, but advised her to see other physicians. They were of like opinion, advising me to watch the patient for manifestations. The secondary manifestations came on in about sixty days afterward, and there is no question she was poisoned in that way. She said the dentist hurt her lip at the time he extracted her tooth. To me it was a very interesting case. I have treated her since and her hair has dropped out. This case was referred to a lawyer, and in all probability there will be a case in court. I have placed myself in a position of security by having her see other physicians; three or four other physicians have examined her, so if it comes into court the profession may be protected.

Dr. Buchanan: I have nothing to say on the subject introduced by Dr. Thomas, but I have a word to say about the case which was reported in which a dentist was charged with having introduced syphilis by means of his instruments. We all know the variety of ways by which an abrasion of the lip can be made. I think if this case should come into court, the plaintiff would have the very greatest difficulty to prove even that it was shown that the abrasion on the lips of this patient was the site of the chancre, showing that the inoculation was made by the instrument that produced the abrasion. Suppose this girl had a family friend who had something on her lip, and that she kissed that friend good-bye at a station about the time when she received the injury at the dentist's, she would have received this inoculation, and the dentist would have to bear the blame. This girl might have received the inoculation by a drinking-cup; she might have wiped her face with the towel that the servant girl had used; she might have received it in a thousand ways, and still this dentist must bear the blame. I think, as we use instruments ourselves, we should be exceedingly careful of implicating in any way any member of the cognate profession of dentistry.

Dr. Barclay: I appreciate what Dr. Buchanan has said, and I have been just as careful as he could be. It seemed to me, from the history of the case, that she was certainly poisoned by the instrument. I know and appreciate just as highly as any one could, how much danger there is to the dental profession and the medical profession from this very cause, and I very carefully looked into that matter, and I am well satisfied when I say, I believe she was poisoned by a dentist's instrument. The history of the case goes to prove very clearly that the lip became indurated the third day, that there was a large lump in her lip, and the glands were sore. Of course what Dr. Buchanan said is true: she may have kissed a friend. I inquired as to that, and I am satisfied, if she was poisoned by any other means except the one referred to, she was innocent of knowledge of it.

Dr. Buchanan: According to this statement, the chancre appeared on the third or fourth day after the inoculation. We all know that that is entirely too short a time. We know if we inoculate a person with syphilis, it never appears on the third or fourth day; it takes a good while longer. If it appeared on the third or fourth day after the dentist extracted the tooth, then he did not inoculate her.

Dr. Barclay: Morton, in a recent work, states it may make its appearance on the first up to the seventieth day.

Dr. Davis: I would like to ask the Society if any one has known a case of syphilis to be communicated after the third year to their children, or any one else; that he can say, of his own experience, syphilis has been communicated after the third year?

Dr. Williams: I have in my charge a man who was married seven years ago, who had an eruption on his body. He

had a chancre, but did not give it any attention. About six months after the manifestation of syphilis, after the rash manifested itself, he married, and in due time a rash of a similar kind came over the wife. He was then taking anti-syphilitic treatment. I do not remember the exact year, I think three years after his marriage, his wife was delivered of a child, and, unlike the cases reported by Dr. Thomas, there was a manifestation of syphilis on the skin, entirely covering the child. The child died in about three weeks. Four years after this, the man was presented with another member of the family, and a like condition exactly was manifested in the child. During this time he was taking anti-syphilitic treatment.

Dr. Lange: I stated a case a little while ago, and forgot to say that during the time these three children were conceived and born, the mother had not at any time any manifestation of syphilis; never at any time. Two of the children are healthy, the last one syphilitic, and the mother at no time presented syphilis.

Dr. Davis: Do you know whether she could have taken syphilis?

Dr. Lange: She never had symptoms.

Dr. Green: Can you exclude all evidence of a nurse, or some of the attendants, not conveying it to the child? I have seen a number of instances myself where the mother and father were clear, yet the child was syphilitic.

Dr. Lange: These children were fed with bottles, in the hope that, if taken away from the mother, it would lessen danger in the first two, and the third child was nursed.

Dr. McKibben: On the 2d of August, I delivered a woman whose husband was treated for syphilis about six months, when he got careless and stopped treatment. After three months he had mucous patches in the mouth, for which I treated him. He was anxious to get married. I told him it would not be advisable, but after a period of about eighteen months he married; his wife became pregnant, and the child was born on the 2d of August, perfectly healthy, and the mother has not shown any symptoms.

Dr. Shaw: I have in mind four men who had syphilis before marriage. Three of them had it severe enough to warrant a visit to the Hot Springs. They have all married, all have children, and none of the children have ever shown any manifestations of syphilis. I cannot give the exact time in any one case, but an interval of at least three years from the time of the first manifestations of the disease elapsed before marriage took place.

American Electro-Therapeutic Association.

First Annual Meeting of the American Electro-Therapeutic Association, held in Philadelphia, September 24, 25, and 26, 1891.

(*Continued from page 138.*)

MORNING SESSION.—Saturday, September 26, 1891.

Meeting called to order at 10:10, with President Massey in the chair.

Dr. W. F. Robinson, of Albany, N. Y., read a paper on

ELECTRICITY IN THE TREATMENT OF RHEUMATISM.

I have chosen this subject, which is somewhat out of my line (nervous diseases), for it seems to me to have been very much neglected.

One principal reason for this is, that electricians are, almost without exception, nerve specialists; at least they are so on the other side. As such, they preside over nervous clinics, and if, by chance, a rheumatic patient should apply to such a clinic, he would probably be refused admission as an improper case, and sent elsewhere. The result is, electricians seldom, if ever, have their attention called to this disease, and have little experience in its treatment. In the large Vienna clinics I saw but few cases of rheumatism treated by this agent, in comparison to the enormous number of nervous cases. In one of the Paris clinics, however, they made quite a specialty of rheumatism, and treated a large number of cases by electricity, with most gratifying results.

Altogether, I saw enough to convince me of the value of the treatment, and since my return I have seized every opportunity to treat this disease in order to bring out the therapeutic value of electricity in combating it.

My object in this paper shall be to set forth as clearly as I may the practical therapeutic indications and technique for the use of electricity in the treatment of rheumatism. I do not include the acute inflammatory form, as I have had no experience with electricity in its treatment.

Treatment.—In regard to the treatment of rheumatism, I divide it into two classes: 1st. Cases in which only one or two joints are affected, which I always treat by means of galvanism. 2. Cases in which the rheumatic poison is more extended in its action, involving joints, muscles, fascia, etc. Here I use static electricity.

This is a most unscientific mode of classification, but I do not intend it as such. My method is based on clinical experience. This first form may be typified by rheumatism of the knee, which is so common, and at the same time so important, that I shall take it to illustrate the method of treatment for joints in general. The question of electrodes naturally presents itself, and is very far from unimportant. It is just here, it seems to me, that the general practitioner often fails. He tries to give electrical treatment with nothing, perhaps, but the little sponges which have come with his battery, and then wonders why he does not get the results which his works of reference lead him to expect.

The electrodes should be large—the larger the better—and carefully made. If covered with sponge, it should be soft, and free from gritty particles. Every effort should be made to increase the conductivity of the skin. In order to do this, a hot solution of bicarbonate of soda should be prepared, and before the electrodes are soaked, all the other preparations, as to the patient, battery, etc., should be made. Now saturate your electrodes and apply them quickly, and you will be able to use warm fluid. Both the skin and the electrodes should be thoroughly wet, and in order to avoid wetting the clothing, I wind a towel tightly around the leg just below the knee.

Neglecting these things, and then trying to drive the electricity through the skin by means of strong currents and high voltage, is a great mistake for several reasons:

First. You are very apt to injure the skin, producing ulcers and sloughs, which take a long time to heal, and cause endless pain and annoyance to the patient. Then the treatment is so painful that the patient will very likely come to the conclusion that the remedy is worse than the disease, and give it up.

Finally, it is very much more difficult to properly regulate the treatment and to judge of its effects with the barrier of the highly resisting skin between us and the parts we wish to reach. Were this barrier out of the way, or had we some efficient means of reducing its resistance to a small amount, our treatment would not only be simplified, but would be made much more efficacious. I believe we must do this before any great advance in the use of galvanism will be obtained, and I have already given a good deal of time and thought to the subject myself.

Now to the dosage of the electricity. Any joint where you can apply the ordinary hand sponges, such as the knee, shoulder, wrists, etc., may receive from 12 to 20 milliampères. With these methods you will find it difficult to apply any

more without having serious trouble with the skin. I believe we should obtain better results by the use of somewhat stronger currents, but with our present imperfect system of electrodes, I doubt if their use would be advisable.

Choice of Method.—Now as to the use of the three methods which we have at our command, viz., the constant current, the interrupted current, and voltaic alternation.

Here I branch off into theoretical considerations as to what the action of electricity is in these affections. We are well acquainted with the caustic action of electricity as seen in Apostoli's procedures. We understand the electrolytic action which consists in the breaking up of chemical compounds. Both of these actions are to be avoided in the treatment of rheumatism. We do not wish to produce an eschar; neither do we wish to decompose the fluids of a joint.

There is another and very important action, however, of whose existence we know, but do not fully understand. It may be termed the action of vital stimulation, by which all the vital functions of the organism, such as circulation, innervation and absorption are stimulated and urged on to increased activity. This is the action "par excellence" which we wish to obtain in our treatment of rheumatism, and in order to obtain it, we need to use the procedures of interruption and voltaic alternation. I believe we have now arrived at a point where specific directions must stop, for beyond this each physician must go alone.

Thus far it has been rather plain sailing regarding the electrodes, dosage, etc. Now we have at our command these three forms—the constant, the interrupted, and the alternating currents. They all possess this vital stimulating action, but in a degree which certainly varies with the peculiarities of the individual organization. I have seen cases, more especially in women, of nervous, sensitive organization, where every attempt to use interruption or alternation of the current only produced increased irritation in the joint, in addition to increased pain at the time of application. These same cases would go on and make good recoveries under moderate doses of say 10 milliampères, and the use of the constant current alone. The explanation of this, to my mind, is very clear, the moderate dose of galvanism being a sufficient stimulant to the vital functions to enable them to overcome the morbid conditions. Another case, especially if it were a chronic one, might have this same treatment for weeks without receiving any benefit, whereas a stronger dosage, with the aid of alternation, would have produced satisfactory results.

Voltaic alternation is a still stronger stimulant than interruption, but it must be used with caution, for with strong currents the pain and irritation are very great.

Some time ago I was consulted by a middle-aged man who was accustomed to have an attack of rheumatism every spring, which would lay him up for three or four weeks. It came in different parts of the body, but this attack was in the great toe. He was unable to wear a shoe on the foot, and could only hobble painfully about by means of canes. Three 10-minute applications of a 10-milliampère galvanic current removed the trouble entirely, so he could wear his shoe and discard his canes. One week later, there was a slight return of the trouble, which was dissipated by one treatment. I have seen a great many similar cases, and I do not hesitate to deduce from them the following principle: Joint rheumatism, pure and simple, is almost powerless to withstand the direct application of the galvanic current.

Static.—Let us consider now the second class of cases, where the disease is more diffused, and involves various tissues and organs in different parts of the body.

In this class of cases I put my trust in static electricity, though I am well aware that many electricians do not believe in its efficiency. Just here let me say a word about the vexed question as to whether this form of electricity penetrates the body or not.

Many people seem to have the idea, on account of the well-known fact that static electricity, when at rest, will collect on the outside of a body, therefore it cannot penetrate into the interior, and that the internal parts of the human body cannot be reached by it. I firmly believe that this conclusion is illogical and absurd. It not only penetrates, but it is the most penetrating of all the different forms in which this force manifests itself, since it makes its way through all kinds of matter, whether a conductor or not. This class of cases is somewhat different in nature, and my method of treatment is entirely different. Not only are the lesions more numerous, but they are less obstinate, as a rule, and more apt to shift their location. If I may be allowed to choose a type for this class which I have so arbitrarily created, it would be a case in which the trouble was centered in the lumbar and sacral regions. This is the favorite spot for muscular rheumatism, probably because the muscles of these parts have so much hard work to do, and are so constantly employed. Let us take a case where there is pain and stiffness in the back; worse after sitting; pains running down the thighs, and at times in the knees; also pains in one shoulder, and in the corresponding side of the neck. If you should set out to treat this case with galvanism, you would have your hands full. The patient, whether a gentleman or lady, is obliged to remove or disarrange a great part of the clothing, and the various parts of the skin where the direct applications are made must be thoroughly soaked with the solution. When this is done, it is almost impossible to avoid wetting the underwear, and as the patients have to go out, perhaps, into the biting air of a winter's day, the results are often disastrous. I have seen an attack of rheumatism brought back by just this thing.

Another risk would be that of filling the system so full of this powerful fluid as to produce serious depression, which would have a highly injurious action on the rheumatism, since it is in itself a powerful depressor of the general vitality. On the other hand, let me say that certain persons cannot stand static electricity, so that in such cases galvanism would have to be employed in spite of its disadvantages.

In treating with static electricity the clothing does not have to be disturbed, as this agent is strong enough to penetrate it. In the treatment known as the general charge, the patient simply sits upon an insulated platform, while the electricity flows through every part of the body. I believe the general charge alone has an important therapeutic action in rheumatism, being comparable, to a certain extent, with the constant current, and I have seen it do good work in the case of old persons who were too feeble to stand the treatment by sparks. I have had under my care during the past winter a lady over 70 years old, suffering from rheumatism of the legs. After a short course of treatment, consisting of the general charge alone, the pain left her almost entirely, her ability to walk greatly increased, and she was altogether much more comfortable.

Sparks.—The general charge is rarely used alone, and static electricity is usually given by means of special electrodes, in the form of sparks. The question as to the use of these different electrodes is mainly one of degree. The mildest of all is the metallic point, which can hardly be called a spark-giver, since the electricity almost flows from it in a kind of stream. Next comes the carbon point, then the small metallic ball, then the large ball, which gives a very powerful, and, to those not accustomed to it, a painful spark. Now, as to more specific directions; suppose a case with pain in the back, neck, thighs, etc., should present itself for treatment, how should it be attacked? Before placing the patient upon the insulated platform I always listen to

the heart and satisfy myself that the sounds are normal. I then apply the general charge for five or ten minutes, and my first treatment is finished. If the patient has any idiosyncracy against static electricity you will discover it, and act accordingly. If the patient has felt no ill effects, I begin with a mild electrode, such as the carbon point, and apply direct sparks to all the painful regions. It is infinitely more convenient to do this than to apply the wet sponges to the same regions. I give most of my attention to the lumbar and sacral regions, for I find this is usually the stronghold of the malady. It is well, also, to give a few sparks up and down the spine as a stimulant, or, more properly speaking, a tonic, to this important organ. If the joints are affected, I handle them very lightly, scarcely touching them at all, as they are especially sensitive to this form, and it does not act near as well on them as does galvanism. As I said before, however, the different local lesions are not as obstinate in this form, and the joint affections are apt to disappear along with the others, even though they have not received very much separate treatment. As the treatment goes on, you will be able to give stronger sparks, until the patient is able to bear, and even enjoy, the heavy sparks from the large ball electrode on the very spots which were formerly so sensitive. It is always a very encouraging sign when this tolerance appears, as it is a strong indication of the curative action of electricity. While the local pains are growing less, there will be noticed, also, a marked change in the general condition. Patients suffering from general rheumatism are usually in a very bad state of health, the internal organs being poisoned by the rheumatic products circulating in the blood, just as the joints and muscles are. It is just here that the electricity has a most important action in stimulating the different organs to better performance of their functions, and thus improving the general health. It is for this reason that the sparks to the spinal cord are advised. In persons of a neuropathic temperament the action of the rheumatic poison upon the nerves is sometimes very strong. Not only do they become specially nervous and irritable, but there is often present marked depression of spirits and loss of interest in life. As a rule, they have no idea what the cause of this condition is, and they naturally conclude there is no hope for them. During the past winter I have had a somewhat remarkable case, in the person of a lady in middle life, who had suffered with rheumatism ever since her girlhood, more than thirty years. She had rheumatism of the most general character, affecting off and on all parts of the body. She had become despondent, and took no interest in life. After a month's treatment by mild static sparks to the spine and other parts of the body, she felt like another person.

I usually give these treatments every other day, unless there is some special reason for hurry, as in the case of persons leaving the city, and then they may be given every day. The usual length of the treatment is ten minutes, about five minutes sparks, and the rest of the time the patient simply sits quietly upon the platform and takes the general charge. Cases of long standing, or those who have taken this form of electricity before, sometimes receive sparks for the whole ten minutes. But here again comes the point, just as in the case of galvanism where specific directions are almost impossible, but where the physician must rely upon his experience and observation. Some people are excessively sensitive to Franklinism, just as others are to galvanism. A short time ago I was treating a patient for rheumatism, and the first treatment, which only lasted five minutes, brought on a return of her courses, although she had them only two weeks before. Some patients will never be able to stand more than the small brass ball, but they will nevertheless make satisfactory progress and ultimate recovery under the treatment.

A Word on the Auxiliary Treatment of the Disease.—I believe that electricity has a two-fold action which meets all the indications of rheumatism — specific action against the morbid process and a general tonic action which tends to build up the system depressed as a result of the disease. For this reason I do not think it necessary to give tonics during the treatment. As to the ordinary anti-rheumatic drugs, such as the alkalies, the salicylates, etc., I have never found that they assisted the action of the electricity to any great degree, and so do not give them. There is one thing that I do advise, however, and that is the use of some good mineral water. I consider Carlsbad and Londonderry the best.

Conclusion.—In conclusion, let me say that I believe this subject of rheumatism offers a splendid field for investigation and discovery. Its electrical treatment is now only in its infancy, but the good results already obtained show what we may hope for in the future, when a wider experience and a fuller knowledge shall have increased our skill.

Dr. Nunn: I wish to commence the discussion of this paper, which is of great value and interest, as all the others have been. There is a point, however, which I desire to bring before the Association, and that is why I have ventured to commence first, so that others may have an opportunity to discuss the question. It is one I am particularly interested in, as I think also are the other members of the Association. I allude to the penetrating power of the static current. There are two schools that have been well brought forward by Dr. Robinson, one of which takes the position that all static currents are on the surface, and the other that it penetrates.

If we can prove clinically that the current does penetrate the human system, I think it would be a great point in advancing this matter. In proof of its penetrating powers I will cite a case. A patient that had been suffering a great number of years from various symptoms, ultimately developed, quite unexpectedly to himself, a curvature of the spine on the right side, in the lumbar region. There was a hard tumor, appearing almost like bone, and absolutely without sensation. The muscles on that side of the back were practically dead, and ossified and paralyzed. For months, various applications of faradism were made, and various electrodes were used without result; likewise with galvanism in various forms—interrupted, continued, etc. High ampèrage was used, as high as the neighboring parts could stand, until in some instances the moving electrodes had cauterized, and the skin was parched and hard. That gives a good idea as to the strength of the current. All of this was of no value; the boss was there, the swelling was there; all the symptoms were there, and it was of no value whatever. Then we turned to the static current, and a 12-plate Bergh machine was used, giving a 4-inch spark. It was passed over various portions of the body with the clothing on, and it passed all right; when it came to that boss, no spark passed. Now, had that current simply been on the surface, it would have passed quite as well over that spot as it did an inch or two away from it; that is to say, if we have a ball hollowed out and filled it with a metal, if the current goes only on the surface, it would pass over the surface of the copper ball, no matter what the contents. If you fill it with wood, it will pass over it just the same. If the skin alone conducted the static current, what is below the skin makes no difference. If, on the other hand, it goes through the body to an opposite point, it is evident that the interposition of a non-conducting substance would effectually stop the current, which it did in this case. Therefore here is a case where, beneath the skin, was a non-conducting substance a 4⅛-inch spark refused to pass. I think this is important: It was applied outside of the clothing, then all the clothing was removed, and it was applied directly, and still it did not pass, the spark did not

go round, the action of the machine stopped. This spark was passing from prime to prime conductors 4½ inches, but when you came to this spot, the machine ran on and the current did not pass; it did not pass 4⅛, nor 2, nor 1, nor a quarter of an inch. That point was brought out, I think, in the paper, and I made a note of it at the time. I will not occupy any more time of the meeting with the other points, but that was an important point, and a most original one, I think.

Dr. Bigelow: I say to my sorrow, that I am a victim of rheumatic gout. When in Paris, I was suffering very greatly, and I had undergone two treatments at Carlsbad, and I took the advice of Thompson. I had tried Vichy water, which I may say is practically useless, and does more harm than good. For the pain in the joints I used static electricity from the small ball, and I had immediate cessation of pain. The application was very painful, but not nearly as painful as the pain itself. From that static current I obtained immediate relief, but I did not find it curative, but simply palliative.

I think, if we addressed ourselves more to the liver and less to the kidney, we would get better results.

Dr. Goelet: It is rather out of place for me to say anything as to the value of electricity in rheumatism, but I think the galvanic current is very satisfactory, and I wish to call attention to the fact of duration of applications. The sedative effect of galvanism, I find, can be obtained by currents of short duration. You get a much better effect than when long continued, for after a time you get an irritative effect, and I believe that you get better effects from applications from three to five minutes, and certainly much better than those of ten minutes.

In defense of the clay electrode, I think I have seen it used satisfactorily. When I went to Paris and saw Apostoli's electrode, I tried to improve upon it. It was necessary for me to have an electrode which could be applied agreeably to the patient, and for this reason I did not use Apostoli's, but a modification of it. And instead of making it as he does, I mix the clay to the consistency of putty, and it can be kept so by keeping it moist. You make a flat pad by rolling it on a board as a cook does dough, and get it into shape, and then, after placing a metallic cover on it, it is covered by a layer of absorbent cotton. Then it is sewed up in a gauze cover. On the back I place rubber cloth, just as you find in sponge protected electrodes. With this you have but one moist surface, so that you do not wet the clothing. The objection has been made to absorbent cotton that you neutralize the benefit, but that is not the case; the cotton holds the moisture for some time, and if you lay it down on marble or zinc surface, it will retain its moisture for months, and the clay is kept in a moist condition, so that the benefit of the clay is retained. The clay percolates through the cotton, but not sufficient to soil the surface of the patient, and you do not have to wash off the abdomen. You get better contact, as it fits better to the surface. It is all ready for use by my adaptation. Another objection has been made to it—that it is cold, and that there is difficulty in keeping it warm, but I have got over that. I have made a warming-pan, a zinc jug of the size of Webster's dictionary, and it is fitted to it, and you can set it on the surface without damaging anything. This always keeps it warm, and you have the pads warm and moist. You need not always use the large clay electrode, but you can have them any size, from 1 to 15 inches square.

Dr. Walling: Dr. Robinson has referred to the effect upon the heart of the Franklin current. I have been investigating that somewhat, and in a number of cases I have found the effect of the static insulation on the circulation. My attention was first called to it by a patient complaining of pain in the cardiac region from positive insulation. I paid little attention to it at first, but its recurrence made me think that there was something in it, and the next time I tried the negative, and did not have that trouble. I have noticed that the positive has the effect upon the vascular system of constringing the capillaries, and thus acting on the circulation, while the contrary was experienced by negative insulation. Another particular patient, a lady, I placed on an insulated stool and used the positive current, and she made considerable complaint, and I then reversed the pole and she felt better, so I have come to the conclusion that there is a great difference in the effects.

Dr. Blackwood: I merely wish to refer to the clay electrode. We know that there are two objections to it: First, it is dirty, and another that by mixing water with the clay it is a poor conductor. The value of practical hints from electricians as to the question of resistance should be agitated. Prof. Houston suggests that if plumbago was mixed with the clay it would be a perfect electrode.

Dr. Morton: I am very thankful to Dr. Robinson for going over the general subject, and giving the general treatment, and bringing up the points he has in the practical way he has done. He has traversed very much the same ground I do daily in practice in New York and I have met the same difficulties, and have attempted to solve many of the same problems, and have appreciated the way in which he has met the difficulties and suggested their solution. I have very little fault, if any, to find with anything which he has said. I wish we had more such general discussions of practical methods; but I made a note of one thing which I would like to add to what the doctor has said. This entire question of getting larger currents through the skin is one that we are all coming to and have all considered. I believe that all the methods taken up by the doctor are practical ones. I tried bicarbonate of sodium in endeavoring to obtain cataphoretic action upon the tissues, and I thought I might produce local anæsthesia. I used twenty-five milliampères through my arm for fifteen minutes, and made a big blister; and I found that the soda application was very irritating, so I did not use that again. Perhaps it might have done with chloride of sodium with the same current. In practice I use as large electrodes as possible and try to get away from the small conventional discs sold by the manufacturer. I was surprised to hear Dr. Robinson speak of the dangers of taking in too much of the current, for I thought we all regulated that by the milliampère meter, and that we all knew how much was going in, as we should know exactly what we are using.

I would say in way of suggestion, and as a practical point that in taking up Althaus recently I saw there an historical account of the clay ball electrode. He made them non-polarizable with the sulphate of zinc, and he described how to make them, but that is not what I wanted to say (and this will please Dr. Robinson): to get a great current intensity through the body, Dr. Althaus says, take a large clay ball electrode and saturate with the sulphate of zinc, and he says you can get greater intensity through the skin than by any other way. He goes on to say that a current of fifty Daniell cells can be passed without pain through the skin. I shall try that when I go home, and if we can get rid of this barrier—the pain of the skin,—which is one of our great difficulties, it will be a great boon. This skin of ours, which was put there to keep out such things as electricity, I hope will be overcome; we will try then the clay ball electrode.

The doctor seemed to think that there was some influence to be derived from the current, owing to a peculiar principle which he seems to have invented or copied from some ancient work. That was the effect of the current on the vital principles. I thought we had gotten through talking of vital principles, on account of the great inexactness of the

term. It is undoubtedly a fine principle and a beautiful thing, but I do not understand the value of using it, as we know nothing about it. I do not understand the use of talking about it, these vital principles or vital fluids, or whatever you might call it, as those fluids or principles are very difficult to conceive of. He seemed to think that there was a difference between the ideas which I suggested yesterday of the chemical treatment and of those which relate to the vital principles—why, Mr. President, I think they are the same thing, and that the chemical principles are at the bottom of the vital principles, and I think it is the chemical principles we are to look to as the nearest point by which we can reach the vital principle—whatever that may be. So, after all, I think his point against me is not so well taken and, I think, if he studies the matter, the vegetative character of the cell and the chemical principles are more important than the vital fluid.

Static electricity, the hobby of my soul, he refers to and I wish merely to corroborate what he has stated, that he did believe the current penetrated the human skin. The best evidence of that, in corroboration of his statement, is the effect on muscle. If I give a four-inch spark to the forearm and a person is holding a ten-pound dumb bell and he raises that dumb bell every time I give a spark, I defy anybody to explain how that dumb bell is raised unless the biceps contract from the spark, and that it can be done without stimulating the biceps, and by the current going through the skin. It seems to me that upon a basis of physics it is puerile. There is every law in physics and electricity why this statement that it does not pass should not be true, and I could give them all to you. The experiment on the biceps and that related by the doctor, which I wish I could explain.

The question of rheumatism and gout opens up a vast question. I only know that he seems to think the two diseases are of the same nature. I suppose it is generally admitted that we have uric acid in rheumatism and the urate of soda in gout, and there, I think, is the great power of electricity—that is, that we can restore the tissues so that they resist these poisons. You speak of anæmia of the patient. It is known that in the rheumatic diathesis you have great weakening of the blood globules. He speaks of the reappearance of the menstrual function, and I have seen cases where it has been delayed and I have found the static electricity very useful.

In muscular rheumatism the action is marvellous in restoring the condition of the patient, and it is simply due to the remarkable effects of static electricity in restoring the equilibrium of the person, just as by a trip to Europe or a work in the garden.

Dr. Newman: I have but little experience with electricity in rheumatism, and I wish I had not that. Nevertheless, I must confess that the subject is of great importance. I hope it will be brought out of its infancy to greater usefulness. The subject has interested me very much, but I wish the author had made some of his points more clear to the general practitioner, and I suggest to the Doctor that he explain what alternating and interrupted currents are. All of us here, of course, know, but the general practitioners do not, and I would like to have the different methods explained. Rheumatism may be muscular—it may be confined to the muscles, but it may be found in the joints, and I think that the treatment should be different in these cases, as the deposits are different in character—sometimes uric acid, sometimes alkaline in character—and it seems to me that the electrolytic treatment should not be entirely disregarded. Edison has made some experiments to disperse these conditions of the joints. He used it more as catapheresis to dissolve these deposits. I hope the Doctor in summing up will mention these different ways, and perhaps add to his valuable paper.

Dr. Hayd: I should like to ask whether the Doctor made any difference between the negative and positive poles. In any form of rheumatism you have deposits, and in order to banish any deposit in any joint you must have a certain effect. In a general way the deposit in chronic forms of rheumatism is very different from that in acute rheumatism. In acute rheumatism we have to use alkalinity to produce an effect, so we use the negative pole to the joint, and that is where again those beautiful laws which Dr. Morton brought out yesterday hold good. If there are urate or uric acid deposits you need alkalinity for the same reason. There is some action which needs definite application, and that is again the negative pole. While the paper was covered very nicely, the subject was too general, and nobody can derive any value unless things are classified and the polarization is mentioned, and I would be much obliged if Dr. Robinson would explain himself.

(*To be Continued.*)

NECROLOGY.

DR. ROBERT CARSON HEWITT, of Louisville, died on the 22d of December last, from influenza followed by pneumonia. He was the senior physician of his city, and honored by his colleagues not only for his years, but for his ability, integrity and good judgment. A memorial drawn up by a meeting of physicians, on the day after his death, recounts their admiration for his character in terms of warmest eulogy. Among other characterizations, it says: "Dr. Hewitt was a remarkable man. He may be said never to have grown old. Though his age was that of the Psalmist's limit, he was erect and firm in his carriage, without a wrinkle, cheery and boyish in disposition, with no suggestion or appearance of senility. He was neat in apparel, exact in judgment, tenacious in memory, and with a face and form typical of manly beauty. Methodic and abstemious in his habits, careful of his health, he rarely lost a day from his professional duties. He was not only revered and admired by the profession of Louisville, but he was almost adored. Because of his rare attributes of head and heart, he had for many, many years past become a necessity to his *confrères*."

Dr. Hewitt was a native of New York City, but his life had nearly all been passed in Kentucky. He was graduated from the Transylvania University in 1844, since which year he had been a resident of Louisville. The medical men of that city attended his funeral in a body, so as to testify that he had been their most honored member.

DR. WILLIAM C. SHURLOCK, late of Fargo, N. D., died January 17, in this year. He was born in Enon Valley, Beaver county, Pa., January 10, 1835. While yet a young man he graduated from Jefferson Medical College, Philadelphia. At the beginning of the civil war he joined the northern army, and was commissioned a captain in the 51st Regiment Pennsylvania Volunteers, and subsequently became the surgeon of the 100th Regiment Pennsylvania Volunteers. After the war he located in Beaver Falls, Pa., where he built up a considerable practice, besides becoming prominent in the politics of the State and serving several terms in the legislature, in which he occupied an exceptionally distinguished position.

He was married in 1858 to Miss Rebecca Dilsworth, of Beaver Falls, who survives him, with a family of nine children, four sons and five daughters. In 1880 he removed with his family to Fargo, and became a permanent resident, with a large practice, as well as an active participant in all the material interests of the city. He was a staunch Republican in politics, a G. A. R. man, President of the U. S. Pension Board ever since its organization here, in 1882, at his death President of the Medical Association of the State of North Dakota, while his term as President of the Cass County Medical Society had just expired for the year 1891.

He filled well his sphere of life, and commanded in an unusual degree the respect and esteem of his fellows. His widow and family have the sympathy of the entire community in their great affliction.

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SATURDAY, FEBRUARY 6, 1892.

AMERICAN MEDICAL ASSOCIATION.

The Forty-third Annual Session will be held in Detroit, Mich., on Tuesday, Wednesday, Thursday and Friday, June 7, 8, 9 and 10, commencing on Tuesday, at 11 A.M.

"The delegates shall receive their appointment from permanently organized State Medical Societies, and such County and District Medical Societies *as are recognized by representation in their respective State Societies*, and from the Medical Department of the Army and Navy, and the Marine-Hospital Service of the United States.

"Each State, County and District Medical Society entitled to representation, shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number. *Provided*, however, that the number of delegates for any particular State, Territory, county, city or town, shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association."

Members by Application.—Members by application shall consist of such members of the State, County, and District Medical Societies entitled to representation in this Association as shall make application in writing to the Treasurer, and accompany said application with a certificate of good standing, signed by the President and Secretary of the society of which they are members, and the amount of the annual membership fee, five dollars. They shall have their names upon the roll, and have all the rights and privileges accorded to *permanent members*, and shall retain their membership upon the same terms.

The following Resolution was adopted at the Session of 1888:

That in future, each delegate or permanent member shall, when he registers, also record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

Secretaries of medical societies, as above designated, are earnestly requested to forward, *at once*, lists of their delegates.

Also, that the Permanent Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the Secretaries *are, by special resolution*, requested to send him, annually, a corrected list of the membership of their respective societies.

AMENDMENTS TO THE BY-LAWS.

Offered by Dr. I. N. Quimby, New Jersey:

That Thursday morning's general session be omitted, and the time be devoted to Sectional work.

By Drs. J. G. Kiernan, Illinois, and H. St. Ash, Pennsylvania:

That the Committee of Necrology be abolished, and the work of that committee be made the duty of the editor of THE JOURNAL.

By Dr. J. C. Culbertson, Illinois:

That all business matters of the Association be referred, without discussion or comment, to an Executive Committee, composed of two members to be appointed by each State Society in affiliation with this Association, who shall carefully consider and recommend such action as they may deem most advisable.

That the time of meeting of the Sections be from 9 A.M. to 12 M., and from 2 to 6 P.M., and that the time of the general sessions shall begin at 12 M., and continue until adjournment.

By Dr. A. L. Gihon, United States Navy:

That Wednesday be the day for delivery of the President's Address.

ADDRESSES.

On General Medicine, by Dr. J. S. Cain, Nashville, Tenn.

On General Surgery, by Dr. John B. Hamilton, Chicago, Ill.

On State Medicine, by Dr. Chas. A. Lindsley, New Haven, Conn.

Committee of Arrangements: Dr. Henry O. Walker, Chairman, 27 Adams Ave., East, Detroit, Mich.

SECTIONS.

"The Chairman of each Section shall prepare an address on the recent advancements in the branches belonging to his Section, including suggestions in regard to improvenents in methods of work, and present the same to the Section over which he presides, on the first day of the annual meeting. The reading of such address not to occupy more than forty minutes. . . ."—*By-laws.*

"A member desiring to read a paper before a Section, should forward the paper, or its *title* and *length* (not to exceed twenty minutes in reading), to the Chairman of the appropriate Section, at least one month before the meeting."—*By-laws.*

WILLIAM B. ATKINSON, M.D., *Permanent Sec'y.*
Philadelphia, 1400 Pine St., S. W. cor. Broad.

SECRETARIES OF STATE MEDICAL SOCIETIES, PLACE AND DATE OF NEXT MEETING—1892.

ALABAMA—T. A. Means, Montgomery; Montgomery, April 12.

ARKANSAS—L. P. Gibson, Little Rock; Little Rock, June 2.

CALIFORNIA—W. W. Kerr, San Francisco; San Francisco, April 19.

COLORADO—H. W. McLauthlin, Denver; Denver, June 21.

CONNECTICUT—N. E. Wordin, Bridgeport; New Haven, May 25.

DELAWARE—W. C. Pierce, Wilmington; Dover, June 14.

FLORIDA—J. D. Fernandez, Jacksonville; Key West, April —.

GEORGIA—D. H. Howell, Atlanta; Columbus, April 10.

ILLINOIS—D. W. Graham, Chicago; Vandalia, May 21.

INDIANA—E. S. Elder, Indianapolis; Indianapolis, May 14.

IOWA—C. F. Darnall, West Union; Des Moines, May 17.

KANSAS—W. S. Lindsay, Topeka; Fort Scott, May 3.

KENTUCKY—Steele Bailey, Stanford; Louisville.

LOUISIANA—P. B. McCutchon, New Orleans; New Orleans, April 12.

MAINE—C. D. Smith, Portland; Portland, June 8.

MASSACHUSETTS—F. W. Goss, Boston; Boston, June 8.

MARYLAND—G. L. Taneyhill, Baltimore; Baltimore, April 26.

MICHIGAN—C. W. Hitchcock, Detroit; Flint, May 3.

MINNESOTA—C. B. Witherle, St. Paul; St. Paul, June 15.

MISSISSIPPI—H. H. Harralson, Forest; Natchez, April 20.

MISSOURI—L. A. Berger, Kansas City; Perth Springs, May 17.

MONTANA—J. W. Gunn, Butte; Butte, April 20.

NEBRASKA—M. L. Hildreth, Lyons; Omaha, May 10.

NEW HAMPSHIRE—G. P. Conn, Concord; Concord, June 20.

NEW JERSEY—Wm. Pierson, Orange; Atlantic City, June 23.

NEW YORK—E. D. Ferguson, Troy; New York, November 15.

NORTH CAROLINA—J. M. Hays, Oxford; Wilmington, May 24.

NORTH DAKOTA—G. E. Jackson, Grand Forks; Grand Forks, May 27.

OHIO—T. V. Fitzpatrick, Cincinnati; Cincinnati, May 3.

OREGON—C. H. Wheeler, Portland; Portland, June 14.

PENNSYLVANIA—Wm. B. Atkinson, Philadelphia; Harrisburg, May 17.

RHODE ISLAND—W. R. White, Providence; Providence, June 2.

SOUTH CAROLINA—W. Peyre Porcher, Charleston; Georgetown, April 28.

SOUTH DAKOTA—R. C. Warne, Mitchell; Salem, June 8.

TENNESSEE—D. A. Nelson, Chattanooga; Knoxville, April 12.

TEXAS—H. A. West, Galveston; Tyler, April 26.

VERMONT—D. C. Hawley, Burlington; Montpelier, October 14.

VIRGINIA—L. B. Edwards, Richmond; Luray, September 12.

WASHINGTON—E. E. Heg, North Yakima; North Yakima, May 4.

WEST VIRGINIA—D. Mayer, Charleston; Clarksburg, May —.

WISCONSIN—Chas. S. Sheldon, Madison; Milwaukee, May 3.

A GOUTY AFFECTION OF THE PENIS.

SIR DYCE DUCKWORTH, President of the Clinical Society of London, reported at the January meeting of this year a case of gout of the penis, as he regards conditions summarized below. His patient was in St. Bartholomew's Hospital, aged 40 years, a glass-cutter by occupation, suffering from arthritis of the two great toes and other joints. No uratic deposits were present; pyrexia moderate. He had formerly been in a cavalry regiment, but had been discharged, on account of hernia, twenty or more years ago; had led a sedentary life; drank about one quart of beer or ale per diem. He had once suffered from lead colic. He had had occasional attacks of articular gout, and gave a history of having inherited the disease from the paternal side. On the first day of the present attack he had pain in right wrist and one great toe. On the following morning he awoke with pain in and a rigid erection of the penis, which continued up to the time of admission into the hospital on the fifth day, and soon afterwards his second great toe joint became painful. The urine was acid, of 1022 gravity, and non-albuminous. The thoracic and abdominal organs were found to be free from disease. The penis was erect, turgid, tense, and very painful. There were no irregular points of hardness, and the tests were normal. The perineum was void of swelling and pain. Calchicum and aperients were given internally; lotion of lead and opium applied externally; light diet. This treatment did not subdue the persistent priapism; micturition was painful, and soft catheters were required to be passed. A cage, or coop, was employed to prevent the impact of the bed-coverings against the sensitive organ. From time to time there were fresh articular attacks in different parts, with some transient rise of temperature. The duration of priapism was three weeks, when the condition gradually diminished in rigidity and painfulness, along with the general amendment of all the symptoms. This acute form of gout of the body of the penis is extremely rare. The author had not known of another case similar to that described by him, although he had met with affections

of the testes, prostate gland, and bladder. The pathological condition was believed to be a thrombosis of the veins of the corpora cavernosa, with some inflammatory condition of the trabecular structure; a return of blood from the part being mechanically impeded during the blocked stage of the attack. Smaller thromboses of a like nature have been previously reported, but they have not lead to painful persistent priapism; they have produced small knot-like points along the body of the penis, which have slowly or imperceptibly disappeared. There is also a priapism, different from the above, sometimes observed in elderly men as a result of a very acid condition of the urine. This condition is readily removed by an alkaline treatment. The author holds that the case reported by him should be classified among the rarer forms of gout, of which gouty parotitis is another form. In the discussion following the paper, DR. ORD stated that he had never seen an acute case of this affection, although he had observed the chronic variety. The important points of the case may be stated as, first, a gouty heredity; second, sedentary habits of life, with exposure to lead absorption; third, the habitual use of beer as a beverage; and fourth, the refractory course of the affection under the standard gouty regimen and medication.

TYPHOID FEVER IN CHICAGO.

The Health Officer of Chicago states, through the daily press, that an investigation made by him shows that only three deaths out of every fifteen reported at his office as being caused by typhoid fever is correct. This is about the worst reflection on the diagnostic ability of more than two thousand physicians that has ever come under our observation; but it parallels right along with the same official's statement that the lake water at the crib is free from contamination, as shown by chemical analyses made from time to time in his office.

Evidently the Illinois State Board of Health are quite skeptical in their belief of these official utterances, as indicated by their appointment of DR. JOHN H. RAUCH as Sanitary Expert and Counsellor, with directions to at once examine and report upon the unsanitary conditions which are so productive of sickness, and the high rate of mortality from enteric disease in Chicago.

* * * *

It would be a right good thing for any one of the Chicago Medical Societies to appoint a good large committee of its best-known members to examine into and report upon the existing conditions in the Chicago Health Office. Official reports are either very valuable, because of their truthfulness, or misleading to the extent of actual criminality when fictitious.

DR. ROBERT P. BUSH, of Horseheads, New York, was elected speaker of the New York State Assembly, Jan. 5, 1892. Dr. Bush is the first physician who has held this high office. His preliminary education was obtained at the academies in Franklin and Cortland, and he graduated from the Medical Department of the University of Buffalo in the class of 1874. He has been in the active practice of his profession since that time, excepting during the winters that he has spent in the Assembly, where he is now serving his seventh term.

ELECTRICAL DEATH IS PRACTICALLY INSTANTANEOUS.—A medical declaration in reference to the recent execution by electricity at Sing Sing prison, in New York, has been officially filed in the appropriate bureau. It is signed by Dr. Ira Van Gieson, who had charge of the autopsy. He writes: "Rigor mortis was almost completely, if not entirely absent, except in the right leg. There were no discolorations, contusions or marks, except at the knee, where the electrode was applied and at the cheeks, where there were marks corresponding with the restraining straps." He further expresses the opinion that a current of 1,400 to 1,600 volts does not do any damage to the internal viscera, muscles or tissues. The thermic effects of the electrodes were limited to the epidermic layer, the cutis vera not being appreciably altered. The readings of the volt metre in this case averaged 1,716 volts for the four contacts made; and the average duration of the contacts was thirteen seconds. The first contact was fifteen seconds in duration and caused death. This result is therefore described officially as "practically instantaneous and apparently painless." There can be little doubt that execution by electricity, competently applied, is more humane than hanging, and about on a par with the guillotine or a volley of firearms, as in military execution.

BEQUESTS TO NEW YORK HOSPITALS.—Under the will of the late Mrs. Mary Stuart about $800,000 is donated to twelve medical institutions in New York and vicinity. The Presbyterian Hospital receives the largest single bequest, a sum estimated as not less $310,000. The Woman's Hospital and four others will receive upwards of $80,000, while a few dispensaries are remembered to the extent of $5,000. During her lifetime, also, Mrs. Stuart had given with princely liberality to some of these same charities; in no year, for many years past, falling below $100,000 per year for these and other selected objects. And all the while she led a quiet and retired life, with a single servant. Her will disposes of a total of four millions of dollars for religious, educational and protective purposes.

MEMBERSHIP in the American Pharmaceutical Association is obtained only by election at the annual meeting. "Every pharmacist and druggist of good

moral and professional standing, whether in business on his own account, retired from business, or employed by another, and those teachers of pharmacy, chemistry and botany who may be especially interested in pharmacy and Materia Medica," are eligible for membership. For blank applications and further information, address Dr. H. M. Whelpley, 2729 Washington Ave., St. Louis, Mo., Chairman of Committee on Membership.

DOMESTIC CORRESPONDENCE.

Coffee as a Cause of Pruritus Ani.

To the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

The writer who described the interesting case under the above head-line, in the last number of THE JOURNAL, did not mention the kind of coffee that produced the pruritus ani.

In some cases, at least, one kind of coffee will occasion intolerable itching and consequent insomnia, while another kind can be used moderately without giving rise to any unpleasant symptoms.

I have had a case under observation, in which Mocha coffee in minute quantities will produce pruritus, while pure Java, in draughts of two or three cups a day, can be taken with no ill effects. If a small amount of Mocha be added—say 12 to 25 per cent.—the pruritus returns.

In this case, I found two remedies that relieved the itching and prevented the insomnia. Pure camphor-menthol, applied to the affected parts, relieved the pruritus, but left an unpleasant sensation of heat. By mixing it with 50 or 75 per cent. of lanoline, the burning sensation was avoided. The same results followed the topical application of campho-phenique, which, I understand, consists of equal parts of camphor and carbolic acid.

A professional friend, one of our most voluminous writers and a popular post-prandial orator, tells me that he cannot take champagne or wine without suffering from pruritus ani almost immediately after the beverages reach the stomach. Remembering this, I have often wondered at his easy, fluent language in entertaining an audience around the festal board at our professional banquets, at which his glasses were refilled as often as his neighbors'.

I have known lawyers to say they could never plead a case with their piles down. How can an after-dinner speaker make an address abounding in wit and humor, and boquets of rhetoric, while laboring with a pruritus ani?

S. S. BISHOP.

70 State St., Chicago.

SELECTIONS.

SPASM OF THE GLOTTIS.—Sir Morrell Mackenzie finds that by exciting a rival reflex, the laryngeal spasm is at once overcome. By exciting a paroxysm of sneezing, immediate relief is procured. This is best done by the inhalation of a pinch of snuff into the nares, or pepper may be used in the same way. It is sometimes possible to produce sneezing by tickling the nasal mucous membrane.—*Med. and Surg. Rep.*

BY treating carious toothache by means of a mixture of equal parts of crystallized carbolic acid and flexible collodion, carried to the bottom of the cavity, the pain is said to disappear instantaneously.—*Clinique.*

SURGERY OF THE LUNG.—Dr. Tuffier has published an interesting clinical lecture on the Resection of the Apex of the Lung (*La Semaine Médicale*). He performed the operation for tuberculosis limited to the apex. Previously the author had experimented on animals to ascertain the feasibility of the operation. Being convinced that it could be done, he proceeded to operate on his patient, a young man aged 25, with localized tuberculous disease of the right apex. An incision was made in the second intercostal space; after incising and holding aside the great pectoral muscle, the parietal pleura was reached, and now commenced the difficult task of detaching it. The upper part was freed with ease, but below, in parts, it was torn and air was heard whistling; these flaws were stopped with iodoform gauze, and after the rest of the pleura was freed the finger was introduced and the summit of the lung explored. The finger was placed behind the apex and pushed forwards, the lung being at the same time seized with a pair of forceps specially constructed to seize friable tissue, and drawn out through a hole torn in the parietal pleura, which formed a collar round the protruded lung. There were no adhesions between the two layers of pleura, and the surface of the lung appeared healthy, but an induration the size of a large hazel-nut was felt in the portion of the lung withdrawn. A silk ligature was now thrown round the protruded lung beyond the forceps, and the portion of lung removed. The pedicle was fixed to the periosteum on the inner surface of the second rib and the various structures in the wound united by sutures, closing the wound completely and applying over all iodoform dressings. The dressings were not removed for six days, when union was found to be complete. The patient recovered rapidly, and when he was exhibited to the Surgical Society there was good resonance over the lung, and the patient was discharged cured. The portion of lung removed was examined by Prof. Cornil, and in it was found a tuberculous mass the size of a hazel-nut, without having any cavity in it. Around the margin were disseminated tubercles. The bacilli of tubercle were easily demonstrated.

SODIUM BISULPHITE IN TONSILLITUS AND CORYZA.—Excellent results are reported from the use of sodium bisulphite in aborting tonsillitis and coryza. Tablespoonful doses of a saturated solution may be given every hour or two for twenty-four hours, or even longer if necessary. The disease is usually controlled in twenty-four hours under this treatment.—*Notes on New Remedies.*

TO IMPROVE THE LOCAL ACTION OF TINCTURE OF IODINE.—Tincture of iodine mixed with glycerine, is claimed by Dr. Hammond to prove more effective as a local application than the plain tincture. This is due to the retardation of the dissipation of the iodine, or, more likely, to the skin remaining soft and hence in a better condition for absorbing the drug. —*Lancet-Clinic.*

SALICYLATE OF SODA IN ORCHITIS (Dr. Pigornet).—In gonorrhœal orchitis salicylate of soda causes in a few hours at first diminution, and finally complete cessation of pain. Its action is especially constant in acute cases of epididymitis with *vaginalite*. When inflammation of the cord predominates the medication is often without effect. In cases thus treated revolution of the swelling begins sooner than in cases treated antiphlogistically. It follows a regular course, and it may be completed in less than eight to ten days, leaving only slight induration of the epididymis.—*Bulletin General de Therap.*

DR. OHMANN-DUMESNIL has assumed editorial charge of *The Weekly Medical Review*. The initial numbers under his direction are excellent ones.

THE POSSIBILITY OF HASTENING SUCCESSFULLY THE CRISIS IN PNEUMONIA.—Undoubtedly, with our present methods of handling disease, many of the ordinary illnesses which make up the large part of the routine work of every practicing physician are treated in as thoroughly a scientific and successful manner as they ever will be. If advancement is to be made, it must be done through radically different channels. Bacteriology seems to be at present the great field through which general medicine is to receive its impetus for the future.

In this connection it is encouraging to note the increased report of inoculation experiments with the toxine and antitoxine of the various pathogenic germs found in different diseases. The use of the ptomaines of the hog cholera bacillus received notice, editorially, a year ago. Since then there have been many other reports, notably on the establishment of immunity from tetanus and diphtheria from inoculations with the chemical products of their bacilli.

One of the latest contributions to this subject is concerned with the possibility of conferring immunity against pneumonia in man by the injection of the products of the pneumococcus. G. and F. Klemperer (*Berliner klinische Wochenschrift*, August 24 and 31, 1891) have been guided in their experiments by the knowledge that, in most instances, pneumonia, after a course lasting from five to seven days, terminates abruptly by crisis. In the course of a few hours the patient becomes remarkably better; the temperature comes down and the pulse becomes slower and firmer. Yet there has been, during the occurrence of this phenomenon, practically no change in the condition of the lungs, which still remained filled with fibrinous exudation. Pneumococci are still found after the crisis in great numbers in the sputa, and still retain all their virulence.

It seems, therefore, to these observers that the crisis in pneumonia does not depend on any change in the condition of the lungs or in the microörganisms which are found in the disease, but that the improvement is due to the fact that the products of the pneumococcus modify their virulence in some manner after a certain period.

These German pathologists claim that the pneumococcus, when introduced into the body of an animal, gives rise to a *pneumotoxine* which can be isolated. This pneumotoxine is able to produce a febrile reaction lasting several days, after which another substance, *antipneumotoxine*, is produced, which has the power of neutralizing pneumotoxine.

The manner in which immunity is conferred is explained by these observers in this way: Antipneumotoxine, which is found after the crisis in patients suffering from pneumonic infection, has the power of neutralizing the active poison of the disease, and allows nature to re-assert herself.

These observers have tried the injection of antipneumotoxine in a few patients suffering from pneumonia. The antipneumotoxine which they use for this purpose, they obtain from the blood-serum of animals in the stage of pneumonic crisis. They found that in all these patients a hypodermic injection of four to six cubic centimeters of serum was followed, in from six to twelve hours, by a considerable fall in the temperature, with slowing of the pulse and respiration.

Of course, further investigation of these conclusions, especially in the hands of other observers, is necessary before deciding on their practical value.—*Univ. Med. Mag.*

CHROMIC ACID IN THE TREATMENT OF CYSTS.—Within the last few months I have treated with chromic acid three cases of ranula and seven of cystic goitre with such satisfactory results that I venture to make them known. The three cases of ranula occurred in two males and one female; the former had received previous treatment without any benefit; the latter had not sought advice before. All three had large cysts, and the mode of treatment followed was the same in each. A portion of the cyst was cut away and the contents washed out. A saturated solution of chromic acid was then freely applied with a chromic acid carrier to several points of the cyst wall. At the end of the week, the cavity having much diminished, the acid was again applied, and in from a fortnight to three weeks the wound had healed and all signs of the tumor had disappeared. There were no bad symptoms. The seven cases of cystic goitre were in females. The tumors were tapped in the usual manner and the contents washed out. After all hæmorrhage had ceased, the saturated chromic acid solution was applied with a carrier though the canula to the walls of the cyst, in the same manner as with the ranulas. Six of the seven cases healed rapidly after from two to three applications, but the second and seventh of the series resisted for a long time all attempts, and it was not until three months had passed and some half-a-dozen applications had been made that the tumor disappeared. But neither in this nor in any of the other cases was there a bad symptom, and I attribute the length of time the last mentioned case took to heal to the fact that there was a considerable amount of hæmorrhagic oozing, which to a certain extent neutralized the action of the acid. It is therefore advisable to see that hæmorrhage is, as much as possible, arrested before applying the acid. I cannot too strongly recommend this mode of treatment (first suggested by Dr. Woakes in the *Lancet* about two years ago), and though the evidence I have been able to offer is not very great—ten cases in all—still the persistent favorable results obtained are, I think, strongly in favor of a good trial being given to it, not only in the same class of cases as those I have quoted, but in every case of cyst that is inadvisable or impossible to remove. In cystic goitres it seems entirely to do away with the most dangerous part of the ordinary treatment—viz., the conversion of the cyst into a large abscess.—W. R. H. Stewart, F.R.S.C., Edin., etc., in *Lancet*.

ARSENITE OF COPPER FOR LA GRIPPE.—In the influenza epidemic of the past winter and early spring, of course I had my share of cases to treat. It presented itself to me as to other physicians, in all its protean forms, yet I was always careful to ascertain in each case I treated whether the malady was confined in its most marked form to the nervous system, alimentary canal, or to the respiratory organs. In all cases in which the most prominent symptoms were of a nervous character, attended with severe headache, and also those in which the alimentary canal was most implicated, I found no medicine to act so promptly and well, and to which the entire system seemed so responsive, as the arsenite of copper.

Furred tongue and constipated bowels were readily relieved by giving calomel tablets, of one-fourth grain each, two or three times a day, giving two tablets at a time. In this way all cases of influenza, where the nervous system and alimentary canal were attacked, I treated with comfort to my patients and gratification to myself. I kept my patients strictly confined to bed, allowing them to have the diet the appetite would take. The most agreeable article of diet I found to be a fresh egg whipped up in a teacup and the cup then filled with tea. This can be sweetened or not, as the patient desires, and with a bit of toast is generally as much as will be taken. This can be repeated three times a day with good effect.—J. B. Johnson, M. D., in *Western Med. Rep.*

THE AREA AND POPULATION OF THE GLOBE.—The recent publication of the *Bevölkerung der Erde*, of Drs. Wagner and Supan, by Perthes, of Gotha, gives us the most reliable information as to the area and population of the earth now

obtainable. The estimate for the total population of the earth in this present year is 1,480 millions, or an increase of 46 millions over the estimate for 1882, when the last edition of these statistics was published. The exact enumeration of 836 millions (about 56 per cent. of the whole population of the globe) has now been accomplished by census or registration. The population of the chief divisions of the globe is, in round numbers: in Europe, 357 millions, giving 94 inhabitants to each square mile; Africa, 163 millions, or 14 to the mile; America, 121 millions, or 8 to the mile; Australia, 3 millions, or 1 to the mile; and in the Oceanic Islands, 7 millions, or 10 to the mile. In Europe, Belgium exceeds all other countries in density of population, with 530 persons to a square mile; next follows Holland, with 365; and the United Kingdom, with 312; but whereas in England the density is 480, in Scotland it is only about one-fourth, and in Ireland about one-third that of England. In Norway and Finland, the most thinly populated countries of Europe, there are only about 16 persons to the square mile. Of China the estimate is 361 millions, giving a density of about 77 to the square mile. It is in respect of Africa that the greatest doubt necessarily exists. These statistics make it manifest that there are still vast areas of the habitable surface of the earth almost, if not quite, unpeopled; and which will for many a long year to come receive the surplus millions of Europe and other parts of the globe in which the density of population is most keenly felt.

DR. LEARTUS CONNOR has sent out a reprint of his article, "Other Methods of Promoting the Development of the Sections," read before the Section of Ophthalmology at the forty-second meeting of the American Medical Association. He calls attention to the phenomenal growth of the Section and the fact that some new arrangement of hours must be made in order that the papers presented must be read and discussed as their merits demand. He advocates shortening the general sessions and referring all matters possible to committees. He believes each Section should reprint its proceedings in a volume after they have appeared in the JOURNAL. He suggests that a *council of the Section* be formed, consisting of three men from each Section, and that these shall control the appointment of the trustees, who manage the JOURNAL, and the nominating committee.

Dr. Connor has the welfare of the Association as well as of his Section at heart and is endeavoring to make that body what it should be, the representative of all that is best in the medical profession of America. His words are words of wisdom, and if his suggestions are accepted and incorporated into the laws governing the Association, it will improve more satisfactorily, and the JOURNAL, which is only a reflex of the body controlling it, will rise higher in the list of valuable publications.—*Western Med. Rep.*

CONVULSIONS TREATED BY COMPRESSION OF THE CAROTID.—Dr. Leopold Roheim, of Budapest, publishes in the *Gyogyaszat* a case of eclampsia which he had, after the failure of all ordinary remedies, successfully treated by compression of the carotid. The case, which is quoted by the *Pester Medicinisch-Chirurgische Presse*, was that of a robust man of fifty-six, who had been suffering for years from cancer of the bladder, with occasional hæmaturia. The man had been attacked by a most violent eclamptic paroxysm, which was mainly confined to the left side. Dr. Roheim prescribed in vain musk, valerianate of zinc, bromide of potassium, assafœtida, hypodermic injections of morphia, enemata of hydrate of chloral, and frictions with mustard, and at last employed compression of the carotid. After constant compression for some time of the right carotid the convulsions were suddenly arrested, the patient recovered normal respiration, and very soon felt quite well. Two or three slighter attacks followed, which were soon arrested by properly instructed attendants. The effect of the compression was so remarkable that Dr. Roheim earnestly recommends this treatment. He compressed the carotid with the index and second finger between the larynx and sterno cleido-mastoid muscle backward toward the spine, just as Trousseau and Blaud had recommended. He was equally successful in the case of a girl nine years old. He considers the *rationale* of the treatment to be that by compressing the carotid and at the same time necessarily the sympathetic nerve fibres, which closely follow the course of the artery, the excitability of the brain is allayed.—*Canadian Practitioner.*

HYSTERIA IN THE NURSERY.—The Paris correspondent of *The Lancet*, December 12, 1891, states that Dr. Chaumier, of Tours, recently read a paper before the Académie de Médecine on "Hysteria in Infants." Notes of two hundred cases, observed in children under two years of age, led the worthy Frenchman to believe that what ignorant mothers, nurses, and doctors have considered convulsions, "tantrums," or fits of bad temper, are in reality more or less severe attacks of hysteria. According to Dr. Chaumier, the symptoms of the mildest attack of infantile hysteria are repeated, and causeless accesses of rage manifested by loud cries. More serious attacks may be recognized by a stiffening of the limbs, with turgidity of the face, and possibly tremblings. Some hysterical babies will roll on the floor, or the bed, executing extensive movements of the arms or legs, without losing consciousness. Others lose consciousness, and the body is either rigid or limp. There are also *grandes attaques* even among babies. The prognosis is good, and what may be denominated "cradle hysteria" is more amenable to treatment than the drawing-room variety.—*Medical Record.*

THE PHYSIOLOGY OF TEARS.—No subject has yielded more poetry than that of tears. Adjectives the most various have been used to express the qualities of tears. They have been called "hot," "cold," "languid," "briny," "gushing," "round," "glittering," "dull," "silent," "wearied," "wanton," and I know not what else. They are waves of emotion, and as a general expression they are said to spring always from the heart—an expression singularly truthful, for no one ever wept from the head; that is to say, no one ever reasoned himself or herself into tears, except through an appeal back to an emotion. There are very few persons who do not under some emotions shed tears, and it is probably quite true that they who can always restrain them are, according to the common opinion, of a hard and unimpressionable nature. The statement often made, that insane persons do not shed tears, is not all true, but there is some truth in it. I have seen the insane weeping, but I must admit that on visiting the wards of great asylums, there is a remarkable absence of weeping in comparison with the noise, irritation, and wandering of intellect that is forced on the attention. Also, I have known a sane person who became insane, owing to a great calamity of grief, overwhelmed with weeping while the sanity remained, but perfectly and persistently tearless when the insanity was manifested; a result that may appear natural when the physiology of weeping is properly understood.

The poets have dealt with what may be considered, from their point of view, the chemistry of tears. They have written about "salt tears," "crystal tears," "poisonous tears," "honeyed tears," and the like. They are to some extent correct in their poetic guesses. Tears are saline, for they carry a trace of the chloride of sodium or common salt which exists in the blood; they may be poisonous, for in persons under the influence of a soluble poison, like a salt of antimony, they may convey an infinitesimal part of such poison-

ous material; they may be honeyed, for in diabetes the tears do sometimes become saccharine, like the other fluid secretions. But this sort of thing is exceptional. In a general way, tears are made up of pure water holding a trace of saline matter, and nothing more; the glands which secrete them are the purest wells of pure water in the body.

Tears are the result of a nervous storm in the central nervous system, under which there is such a change in the vascular terminals of the tear-secreting glands that excretion of water from the glands is profuse. Some excretion is always in process, in order that the surface of the eye may be laved, and cleared of foreign matters which may come in contact with it; but the controlling centre is at a distance. As the muscular power that extends or flexes a finger is at a distance from the part moved, so the excitement to tears is from an irritation in a distant nervous centre, and is removed when the nervous centre is either soothed or exhausted. The persons who weep say that tears afford relief. Nothing is more perfectly true, nothing more clear when the facts are understood. The relief comes, not from the mere escape of tears, which is only a symptom, but from the cessation of the storm in the nervous chain. If the storm be calmed by soothing measures, as when we soothe a child that is weeping from fear, annoyance or injury, we quiet the nervous centres, upon which the effect ceases. In children, the soothing method succeeds, and sometimes it succeeds in adults, although in adults the cessation of tears is more commonly due to actual exhaustion following a period of nervous activity. In grief, the afflicted weep until they can weep no more; then they become calm, or, like children, cry themselves to sleep. Thus tears indicate relief, and that the nervous system has fallen into the repose of weariness. Persons subjected to many and repeated griefs shed in time fewer tears, and the aged, compared with the younger, are almost tearless. The poor insane patient who ceases to weep becomes griefless; under the continued excitement the grief centre fails or dies. If this were not the case, tears would flow in such a person as long as life lasted. Tears have their value in the life of mankind; they are of value not as tears, although their actual flow gives relief, but as signs that the grief centres are being relieved of their sensibility, and that the nervous organization is being fitted to bear up against sorrow.

I crossed the Thames in a boat at Putney with a man eighty-four years of age. He told me, "It is sixty years since I last made this passage in this same place, and then it was to fetch the famous Dr. Hooper" (author of Hooper's Physician's Vade Mecum) "to see my child Tom, lying at death's door with scarlet fever. I was so heart-broken, and cried so terribly, that the men in the ferry-boat, which then plied here, tried to console me. Tom recovered and lived until last year, when he went before me. If he had died of the scarlet fever when he was young, I veritably believe I should have died too of tears and grief; and yet when he died, fifty-nine years later, during all which period he and I had been affectionately attached to each other, I could not shed a tear, nor could I again feel the poignancy of that early grief. I accuse myself of being without feeling, and yet I cannot help it. Can you doctors explain the reason?" We explain it as above, and we think the explanation as merciful in fact as it is clear in theory.

Respecting the nervous excitation which calls forth tears, I have noticed how little it is due to physical pain. It is called forth by fear, by anxiety, by affection, by grief, but not even by pain extending to agony. In the days preceding the use of anæsthetics I have seen patients who were undergoing surgical operations faint; I have heard them cry out and scream until they made the bystanders sick and pale, but they rarely, if ever, shed tears. The parturient woman, in the acme of her "great pain and peril," may suffer the extremest physical agony, under which her cries are piercing, but she rarely sheds tears. Indeed, I never recollect seeing the most nervous of her class, under such circumstances, shedding a tear. Strangely, however, during the sleep induced by an anæsthetic like chloroform or ether, I have seen profuse tears, not from suffering, but from some emotional dream induced by the narcotic.

A very slight emotional disturbance will induce the nervous irritation leading to tears in susceptible subjects; and this although the catastrophe has nothing to do, intrinsically, with the person affected. Hence the commotion of tears conjured up in a play. Hamlet, it will be remembered, seizes aptly this point when the player weeps. "What's Hecuba to him, or he to Hecuba?" Of course nothing, yet the player weeps, and maybe the audience weeps with the player. By art another remembrance may be used to call forth tears on the proper occasion. A well-known player was asked how he managed to weep when he willed. He replied, "I call up the remembrance of my dear father, who is dead." On the other hand, anything that produces diversion of mind, when the disturbance is not severe, may keep back the outbreak. John Hunter tells us that once when he went to the play to see Mrs. Siddons perform, in a moving exposition of her great powers, he could not join the rest of the house in their tears, "because he had forgotten his pocket-handkerchief;" and a friend of my own, an emotional man, told me that at a funeral, where he expected to be overwhelmed with tears, he was completely checked by an absurd reading which the parish clerk gave to a sentence of the service. In these facts there is nothing incompatible, because the more intense the nervous vibrations, the more easy is the diversion of impulse from one centre to another.

As a rule, the escape, and free escape, of tears, relieves the heart, and saves the body from the shock of grief. Tears are the natural outlets of emotional tension. But there are exceptions to this rule, and I have more than once seen uncontrollable weeping followed by serious systemic disturbance, affecting principally the heart and circulation. I have known intermittency of the heart induced in this way, and assume the most serious character.

Change of scene, mental diversion and outdoor life, are the best remedies for the tearful, but an opiate, judiciously prescribed, is often the sovereign remedy. Other narcotics are injurious. Alcohol, so often resorted to, is fearfully injurious. It disturbs and unbalances the nervous system, keeps up a maudlin and pitiful sentimentality, and sustains the evil. Alcohol is the mother of sorrow. There are other narcotics which are similar in effect, notably chloral; but an opiate given at night-time, under necessity, not only soothes, but controls, and when prescribed so that the use of it shall not pass into habit, is a divine remedy.

It is one of the most curious of natural phenomena that mere imagination can excite the nervous system into the production of tears, without any external aid or reflex. The readers of a pathetic chapter of a fiction may weep over the pages without wonder, because the cause of tears has been raised before the mind; but is it not strange that the writer who made the fiction may be enforced to weep over it, and cannot, in fact, expect any one else to weep over it unless he is himself affected by the picture he has drawn? Such facts place mind, or the immaterial essence of humanity, over and above, and over and preceding, our material nature and all its functions. They lead us to the suspicion that we might exist, think and feel, without this mortal coil at all; or as if, at best, the mortal coil were nothing more than an instrument, doing the bidding of the *ego*, clumsily or refinedly, according to its form, and no more; as if there might be material forms of finer build; angelic forms, as the old books have it, amongst whom tears are unknown.

I have often wondered whether the lower animals shed tears as men and women and children do! It is in the order of physiology to suppose that every animal that secretes a fluid for the laving of the forepart of the eyeball might, under emotion, throw out an excess of secretion, and shed tears; and I have often heard sympathetic people and children say of animals they were fond of, that such animals wept on the loss of those to whom they were attached, on deprivation of some pleasure, or on receipt of punishment. This statement is made most frequently in regard to dogs, but I could never, in my own observation, arrive at evidence sufficient to confirm it. Animals cry, men weep, would be my interpretation of the argument, and well it is so, for if animals wept at the harsh treatment they are subjected to by nature, as well as man, there would soon be none to weep. That some of them have emotions and moments of sorrow, cannot be doubted; but they have no continued memory of the emotion, no recurring pictures that recall it. They forget even their offspring after the briefest periods, and they do not weep from physical pain. The picture of the tear in the eye of the hunted deer is pathetic, and by the reflex may make some weep. But the tear is the sweat of fatigue, not the sign of emotion.

As tears are secreted by glands which lie between their nervous centre and the mucous surface of the eyeball; as they have two functions or duties, one the function of relieving nervous tension, the other of laving the eyeball, so these functions may be called into overaction by internal nervous impulses or vibrations, and by external excitations, or what are sometimes called reflex actions. The first is seen in the act of weeping under emotion, the vibration starting in the nervous centres, and extending to the gland from behind, urging it to action; the second is seen in the act of shedding tears from direct irritation of the mucous surface of the eyeball, as when an irritating substance "gets into the eye," and the vibration extends from the mucous surface back to the gland, exciting it to action and causing emotionless tears. In these ways tears afford a good illustration of the mode in which the nervous fibres are capable of conveying to a secreting organ exciting impulses from both sides of a gland lying in their course, and having in connection with it afferent and efferent communications. In both cases the exciting impulse is a vibration; and as when the impulse sets forth from a mere external irritation, as from a particle of dust on the conjunctiva, the effect is in the truest sense mechanical, so, probably, in the case of the emotional irritation which calls forth tears, the process is as purely mechanical.

In the human animal, tears are most easily wrought where the sympathetic nervous system is most developed and most impressionable, and when the three great emotions, fear, grief and joy, are most active. Hence women generally are more given to tears than men, and under the peculiar state called hysteria, in which the nervous system is at highest tension, are often seen moved to tears by the three emotions in turn, during one paroxysm.

It has been a matter for discussion why tears are always being secreted, in health, for the lubrication and laving of the eyeball. That this constant process is active, is shown by the copious loss of tears over the cheek whenever the lachrymal duct, by which the secretion is naturally borne away from the conjunctival surface to the nasal cavity, and so to the throat, is closed up. But what keeps up the secretion? I suspect the small trace of saline substance that is present in the tears is the cause. The salt keeps up just a sufficient irritation to give an impulse back to the gland, a reflex, sufficient to sustain the necessary function. During sleep, when the eyes are closed, and there is little evaporation from the conjunctival surface, this irritation will be subdued, and tears will cease like other functions. So sleep cures tears, as it "knits up the ravelled sleeve of care."—*The Asclepiad.*

THE UNTOWARD EFFECTS OF SULPHONAL.—In the administration of sulphonal it is all important to administer the salt fully dissolved, otherwise, if given continuously, it may accumulate in the intestines in sufficient quantity to bring about symptoms of marked intoxication. This danger is intensified by the obstinate constipation which frequently attends the repetition of the agent. Sulphonal is best administered in three or four ounces of hot beef tea, care being taken that it is thoroughly dissolved. Renal inadequacy is a contra-indication to the employment of repeated doses, as elimination is prevented, and the danger of intoxication being in consequence increased. In addition to the blood changes referred to and constipation, sulphonal induces ataxia, with manifest weakness of the muscles of the extremities. Lowered temperature and slowness of breathing have also been observed. Visual and auditory hallucinations are uncommon effects. With care, we believe it is possible to avoid all these disagreeable effects, or, at any rate, such as are of gravity, by attention to the following directions: The maximum doses should not exceed twenty grains. It should be thoroughly dissolved. The drug should not be given continuously for more than a few days, and then only when purgatives are employed to counteract its astringent action. It should not be given continuously in cases of renal inadequacy.—*Montreal Medical Journal.*

A REMARKABLE case of maternal impression has lately turned up. It seems that a cow was quietly ruminating on the good dinner she had had, and thinking whether a supper would be equally as generous, when a deer ran suddenly into her lot, followed by a bear at his heels. There before her eyes the bear seized the deer and a short struggle ensued. The cow was in an "interesting condition." The awful sight riveted her to her tracks. Her fright was fearful to behold. Her eyes looked as large as "sacers"; her nostrils were distended; her tail assumed the horizontal position, and every muscle in her body twitched and jumped as though the current of an electric battery were coursing through them. The legs of the bear and deer were so mixed up in the struggle that the cow could not count them, or tell a hoof from a claw. She imagined that she saw a horn protruding from the forehead of the bear; and altogether the scene was very much mixed up in the mind of the cow. The offspring was a frightful monstrosity, an exact reproduction of the image formed on her mind by the mixed and confused scene. Let no one hereafter doubt the fact of maternal impressions.—*St. Joseph Medical Herald.*

SURGICAL TREATMENT OF PULMONARY CAVITIES.—At the recent Congress of Tuberculosis, M. Poirier (*La Semaine Médicale*) read a paper on the above subject. The first case recorded was the result of an accident. In a duel fought in 1679 the sword of one of the combatants passed through his antagonist's lung and opened a pulmonary cavity; the surgeon utilized the wound for the direct treatment of the cavity and the patient recovered. In conjunction with M. Jonnesco, M. Poirier has collected all the available statistics, of which the following is the summary: Of 29 cases of incision of tuberculous cavities with resection of ribs, improvement took place in 15, cure resulted in 4, and in 9 the result was negative. In 19 cases the disease was situated in the apex. These authors conclude that the best way of reaching the upper part of the lung is by making an incision with a thermo-cautery 4 cm. below the sterno-costal notch, from the middle line of the sternum outwards for 9 cm. in a direction parallel to the first intercostal space. In this the pectoralis major, which is usually much thinned, is reached, and by enlarging one of the spaces between the

fasciculi the plane of the intercostal muscles is reached; this is divided and the pleura exposed. If there are no adhesions, it is better to establish them before proceeding further; but if there is a cavity, adhesions are always present. It is easy to strike the cavity through the adhesions, though a certain thickness of pulmonary tissue has often to be traversed for the purpose. As cavities are generally situated quite in the upper part of the lung, the first intercostal space is at a distinctly lower level than the cavity; the point of the instrument is then carried from below upward and from before backward. When the cavity lies toward the back, the spinous process of the seventh cervical vertebra should be sought for; an incision is made outward from this point toward the scapula, the trapezius and rhomboideus are divided, and the first intercostal space, which is narrower behind, is reached. Resection of the rib may be necessary. M. Poirier does not appear to have operated himself on the living, his deductions having been made from operations on dead bodies.—Supplement of *British Medical Journal.*

Etherization in Croup.—By the means of intubation and tracheotomy, the mortality in croup has been very much lowered, but the necessary instruments and the ability to use them are not possessed by every general practitioner so that the discovery of any new method which offers a hope of assistance in tiding over the critical period in this disease is received with interest. Dr. Betz, in the *Centralblatt für die gesammte Therapie*, reports a case of laryngeal croup in which the patient, a child thirteen months old, was in imminent danger of suffocation, and, the means not being at hand for surgical interference, etherization was resorted to with success. Three or four drops of a mixture of three parts of sulphuric ether and one part each of acetic ether and menthol were given by inhalation every half hour. For four hours the child was kept under light narcosis, and at the end of eight hours the improvement was so great that there was no necessity for an operation. The author has since treated successfully two other cases of a similar degree severity.—*New York Medical Journal.*

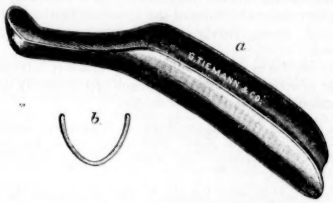
Primary Mumps of the Testicle.—Raven (*Lancet*) reports the case of a young man, exposed to the infection of mumps, who complained of pain and swelling in the left testicle. Four days later both parotids began to enlarge. Seven months previously he had had gonorrhœa, succeeded by gleet, followed by orchitis in both testes, but for three months previous to the mumps he had been well. The writer believes that the orchitis rendered the testicle vulnerable, and that the virus effected an easier lodgment there than in the parotid glands. The mildness of the inflammation in the testicles may bear out Trousseau's distinction between mumps and parotitis. Mumps he regarded as engorgement, but not inflammation of the gland.—*Medical Brief.*

Sterility of Fat People.—Dr. Kisch, in *Le. Bul. Med.*, says: Obesity is an obstacle to fecundation in all animals; and this law obtains also in the vegetable kingdom. Hippocrates enrolled this among his aphorisms. As proof, he cited the frequent sterility of the Scythian women, often fat, in comparison with the remarkable fecundity of their slaves, who were wont to become pregnant upon the least provocation. Without seeking for demonstrative instances in Eastern countries, he has ascertained that while sterility exists on an average in one household in ten, or at least in more than one in eight—six among the aristocracy—this proportion is increased to one in five when the wife or both parties are fat; if we reckon families which have only one child, in such cases there will be found a proportion of one to four.—*Medical Brief.*

A NEW INSTRUMENT.

BY DR. GEORGE HENDERSON.

A device to be used in the treatment after the operation of ruptured or lacerated perineum as a conductor of the urine from the meatus of the urethra to the bed pan; thus aiding the rapid repair of the parts and relieving the patient of that excruciating pain suffered while passing urine over



the lacerated surface. In introducing the instrument it will be held at about forty-five degrees above right angle to the body and pushed into the vagina until the protuberance on the small end passes by the pupic arch, then let the instrument fall between the labia and it is in position. It can be introduced by the patient or the most inexperienced nurse.

Washington, D. C.

BOOK REVIEWS.

A Treatise on Gynecology, Medical and Surgical. By L. Pozzi, M.D., Professeur agrégé à la Faculté de Medécine, Paris. Vol. I. Translated by Brooks H. Wells, M.D.

English reading physicians are to be congratulated upon the opportunity of securing so excellent a translation of the classical treatise of Pozzi as has been given us by Dr. Wells. Not only is the original matter most valuable, but the additions made by the editor by no means detract from the value of the book. A book of this kind is sure to be appreciated by those who are striving to keep abreast of modern aseptic gynecology. It is comforting to observe with what care the author and editor present modern aseptic and antiseptic methods and operative technique. The work is superbly illustrated, and is one of the best made books that Wm. Wood & Co. have ever published.

Deafness and Discharge from the Ear. The modern treatment for the radical cure of deafness, otorrhœa, noises in the head, vertigo and distress in the ear. By Samuel Sexton, M.D., assisted by Alex. Duane, M.D. I. H. Vail & Co. Pp. 89.

In this small work Dr. Sexton again advances his claim for the efficiency of the operation of removal of the malleus or the malleus and incus together in the treatment of those obstinate conditions, chronic non-suppurative and chronic suppurative inflammation of the middle ear.

He supports his claim by numerous instances of partial and complete success that his own experience has afforded him, although it must be stated that in many of them the report of the condition of the parts before operation is not as complete as could be desired.

If this operation of removal of the ossicles will keep the drum membrane perforate in chronic non-suppurative inflammation of the middle ear, it should be more widely known.

Lesson in the Diagnosis and Treatment of Eye Diseases. By Casey A. Wood, M.D. Geo. T. Davis, Detroit, Mich. Pp. 146.

The above is the title of a neat little volume designed for students and general practitioners. The need for such a

work does not seem to be very pressing, in view of the fact that so many excellent treatises, in a compact form, on the subjects here considered, already exist.

There is certainly no justification for the omission in a work that purports to be a manual of diseases of the eye, of such important subjects as "conjunctival diseases" and the "determination of the necessity for wearing glasses." If the importance of constant repetition as a means of making deep and lasting mental impressions, be a sufficient excuse for the frequent exhibition of the same old truths in a slight change of dress, surely these subjects should not be neglected.

The handy form of the volume may make it attractive to the busy practitioner, but the student will probably desire a more complete account of the subject.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES. Edited by CHARLES J. SAJOUS, M.D. Five vols. F. A. Davis, publisher, Philadelphia, New York, Chicago, Atlanta, and London. 1891.

This annual, so well known to the profession, is better than ever this year. The editors seem to have appreciated more fully than heretofore their duties, and the result is a magnificent production. We fail to appreciate the opposition which this work has received at the hands of the publishers of certain medical journals. It does a work which no medical journal can possibly do, and supplies the medical world with the résumé of practically all that is valuable, that has appeared during the preceding year. It does not usurp the place of the weekly medical journal, but rather makes this visitor the more welcome. We believe its tendency will be to cause physicians to extend their reading to subscribe for more periodicals. It is deserving of the highest success, and any medical man who has once subscribed for it, will be very loth to discontinue his subscription.

A MANUAL OF GENERAL PATHOLOGY AND MORBID ANATOMY. By H. N. HALL, Ph. G., M. D. Chicago: Rand, McNally & Co., Printers, 1891.

It is difficult to see what object the author had in view in preparing this little book. It is so condensed as to convey practically no information. A beginner could only get most confused ideas from it. Moreover, it is not free from misleading statements. Aphthous and croupous stomatitis are made synonymous, as are ulcerative and diphtheritic stomatitis. Such errors are palpable and serious. Under the title, "Acute Tonsillitis," occurs this statement: "Phlegmonous pharyngitis, an acute parenchymatous inflammation of either one or both tonsils, usually terminating in suppuration, in which the mucous membranes are hyperæmic, the glands swollen, and oftentimes the follicles become enlarged and of a whitish appearance, which might lead a careless diagnostician toward the belief that the condition might be diphtheria." This extract gives a good idea of the style of the writing. Of Addison's disease is said: "There is no great change in the blood, but may be a diminution in the number of red corpuscles and amount of fibrin. Prognosis is bad; usually affects young men, whom it kills in one or two years."

MISCELLANY.

BURNING OF THE INDIANAPOLIS SURGICAL INSTITUTE.—Speaking of this terrible disaster, *The Sentinel* of that city says: "For years it had been expected and predicted, and the horrors of it drawn in word pictures practically just as it occurred. It was rightly considered inevitable. It was known by all to be a mere matter of time till it occurred, until the people would be shocked by the knowledge that the long-expected and long-dreaded had happened, sickened with the details of its horror and stunned with the terrible harvest death reaped by it." Such facts add to the horror. That the city authorities should know of and wink at such a crime is appalling. "*The Sentinel* bows its head in shame that it has not raised its voice long ago against this standing menace to human life." As such disasters usually come in duplicate and triplicate the lesson is clear. Let the authorities of all cities be on the alert. Imperfections of the kind about buildings where the sick and helpless are gathered are wholly inexcusable, and the authorities permitting them and those owning them should be held responsible.

Unquestionably the Surgical Institute should have been closed long ago because of its unsuitableness for the purpose to which it was put.

Every hospital and charitable institution should be under the immediate surveilance of State and local boards of health and health boards should have the official power to close up any such institution that does not comply with the directions given for the safety and protection of the lives of the inmates.

AT THE stated meeting of the Medical Society of the County of New York, on Monday, Jan. 25th, 1892, the subject for discussion was the epidemic of influenza.

The discussion was opened by Dr. Janeway, and after addresses by Drs. Jackson, Draper and Robinson, Dr. Francis Delafield addressed the Society on the treatment of influenza. He stated as follows: The treatment consisted of putting the patient to bed and seeing that he was well nursed, and had proper diet while the disease was running its course. It was possible, however, for the physician to interfere with advantage in the case of certain complications. Of all the remedies suggested for the treatment of influenza and its complications, such as severe headache or neuralgia pains, etc., he had found nothing so reliable as phenacetine in doses of five grains every two hours. The catarrhal throat trouble which is often present he had treated successfully with aconite or salycilate of soda, with a solution of cocaine for local applications.—*Medical Record.*

MEDICAL SOCIETY OF THE MISSOURI VALLEY.—The next meeting of the Medical Society of Missouri Valley will be held in the city of Leavenworth, Kansas, March 17 and 18, 1892.

Physicians contributing papers or reporting cases for that meeting are urged to promptly send their title to the Secretary before March 1, so they can appear on the printed programme mailed at that date. A most enjoyable and profitable meeting is promised.

Physicians making application for membership will address Dr. R. M. Stone, Omaha, Neb., Chairman Committee on Credentials, enclosing a fee of $2.00.

Anything with reference to hotel or other accommodations at Leavenworth, address Dr. W. J. Van Eman, Chairman Committee of Arrangements.

F. S. THOMAS,
Council Bluffs, Ia., Feb. 1, 1892. Secretary.

DR. WM. T. BAYNES died at his residence, 2419 Sixth Ave., Troy, N. Y., on the 22d of January.

OFFICIAL LIST OF CHANGES in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from January 23, 1892, to January 29, 1892.

Capt. Henry G. Burton, Asst. Surgeon U. S. A., having been found incapacitated for active service by an Army retiring board, is granted leave of absence until further orders, on account of disability.

Official List of Changes in the Medical Corps of the U. S Navy, for the Week Ending January 30, 1892.

P. A. Surgeon A. M. D. McCormick, detached from receiving ship "Minnesota," and to tha U. S. S. "Charleston."

Asst. Surgeon Geo. H. Barber, detached from the U. S. S. "Charleston," and to the receiving ship "Minnesota."

P. A. Surgeon A. G. Cabell, detached from the U. S. S. "Newark," and ordered to the U. S. S. "Kearsarge."

Asst. Surgeon James Stoughton, detached from the Naval Hospital, Norfolk, Va., and to the training ship "Portsmouth."

Asst. Surgeon M. S. Guest, detached from the Navy Yard, Norfolk, Va., and to the Naval Hospital, Norfolk, Va.